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ABSTRACT

Research pertinent to the adaptation of immigrant children is reviewed in a cross-cultural perspective. The report focuses on research that has yielded empirical data, although a number of other papers of basic importance have been included in the review. The first chapter discusses definitions and implications of various types of cross-cultural research. The following headings indicate the contents of the five chapters, constituting the main part of the report: the adjustment process; intellectual functioning in a cross-cultural perspective; cultural influence on perception; bilingualism; and personality, emotion and mental health. A section with general conclusions and educational implications concludes each chapter. (Author)

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MIGRANT ADAPTATION - A CROSS-CULTURAL PROBLEM.
A REVIEW OF RESEARCH ON MIGRATION, MINORITY GROUPS AND CULTURAL DIFFERENCES, WITH SPECIAL REGARD TO CHILDREN

No. 59 January 1977

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# MIGRANT ADAPTATION - A CROSS-CULTURAL PROBLEM. A REVIEW OF RESEARCH ON MIGRATION, MINORITY GROUPS AND CULTURAL DIFFERENCES, WITH SPECIAL REGARD TO CHILDREN

Lars Henric Ekstrand

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The report was presented at the FIPLV Symposium on the Teaching of Languages to the Children of Immigrants, Munich, January 27 - February 1, 1975.

Keywords: Acculturation, adjustment, bilingualism, child development, cross-cultural research, cognitive development, emotional development, emigration, immigration, migration, minority groups, perceptual development, second languages.

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## INTRODUCTION

The aim of this report is to give a picture of cross-cultural research pertinent to the adaptation of immigrant children to a new environment. In the author's opinion, the adjustment process comprises much more than the acquisition of a new language, although this is an important part of the process. The migrant must also acquire new concepts, new behavior patterns, new emotional ties, in short, must become familiar with all the cultural goods which the language reflects and is part of.

There is no simple relationship between language development and social, emotional and cognitive development. Statistical correlations are not high. Emotional or social conditions may help or hinder language acquisition. How these processes come about seems to be highly individual and specific, hence the low correlations. This makes prediction in the individual case very difficult.

We must try to understand the total adjustment process so that we can learn to facilitate it in a variety of ways and help the individual develop a harmonic personality. There is little point in learning to master a language, if one is too shy, depressed or unbalanced to make proper use of it.

This survey does not claim to be complete. It includes some of the tremendous amount of research reported. Some of the research surveyed is directly concerned with the process of migration, some with other psychological processes of importance, for example attitude formation. Though the report is focused on children, much research which the author considers important for the understanding of migrant adaptation has been included, even if it is not concerned with children particularly.

The criterion for inclusion in this report, besides the author's knowledge, interests, and feelings, has been that a paper should give actual data. A few papers of basic interest have been included without fulfilling this criterion. The principle which has guided the compilation of this report has been the wish to give as broad a view as possible of the complex phenomenon of transplanting human individuals from one culture to another.

## WHAT IS CROSS-CULTURAL RESEARCH?

The simplest definition of cross-cultural research would probably be "a study, carried out in more than one culture". Though an oversimplification, there is much truth in this definition. Manaster and Havighurst (1972) elaborate this point further (p 157):

"Fortuitous circumstances has probably been the main determinant of what measurement techniques to use in the society under investigation. A psychologist visiting another country to teach, travel or research tries out an instrument, or instruments, in which he is interested. Two or more researchers from different countries, who are acquainted, who have been collaborators on other work or have studied together, who are friends, find an area of common interest and arrange to study it 'cross-culturally'. Since research originating in this way has provoked studies which have been carried through easily, congenially, and inexpensively, it will no doubt continue."

The cross-cultural study, which thus is replicated across national or cultural boundaries may concern sociology, psychology, anthropology, psychiatry, or any other discipline, studying human beings or human culture.

If there is invariance between cultures, we would interpret the result as due to biological factors. If there are differences between cultures, the result may be due to biological or cultural factors, or both in interaction. While it is generally accepted that variables such as skin color, hair, height, eye color are systematically related to ethnic groups, it is commonly denied that psychological variables such as intelligence, personality, aggression, persistence, handling of abstract symbols are systematically related to ethnic groups. As Manaster and Havighurst put it (p. 8): "No evidence suggests that social or racial groups possess biological qualities which differentiate their performance on psychological tests." Thus research on biological differences or their interaction with cultural variables is typically restricted to the first group of accepted variables. This view is probably in part based on thoughts about the equality of all men, in part based on the abhorrence of dogmas of race hygiene and the superiority of certain races.

While trying to avoid the Scylla of unequality, there is a certain danger for scientific thinking to drift towards the Charybdis of "Lysenko thinking", i.e. erronously disregarding fundamental biological principles.

It would seem important for mankind to know for certain

whether biologically determined psychological differences exist or do not exist and to possess the proofs of whatever outcome may be the correct one. Ignorance or false assumption may in the end prove to be more fatal than the truth. This is not, however, the place to resolve this scientific dispute, which resembles many other famous historical controversies between different schools of science, thought and ideology. This is a description of the conditions in which cross-cultural research is working and of the possible biases which may be expected. As basic research in various fields, such as neurophysiology, theory of stress and neurosis progresses, however, we may expect to eventually find cross-cultural research comprising all possible types of cultural and biological variables and all types of interaction.

The effects of bilingualism on mental development is a special case of crosscultural research. Individuals are exposed to two languages and two cultures in interaction. Thus the same individuals are studied with respect to the effects of the combined cultural impact. In classical cross-cultural research, individuals of one culture are compared with other individuals of another culture.

In order to sort out the true bicultural effects, the bicultural and bilingual individuals are often compared with monocultural and monolingual individuals from one or both cultures under study, or with bicultural individuals from a completely different bicultural area and setting. In this respect, the research is truly cross-cultural, but of a higher degree of complexity than the "classic" type of cross-cultural comparison.

A further difference between the classic type of cross-cultural research and studies of bilingualism is that the latter works more explicitly with the concept of development. This difference tends to vanish, however, as more and more disciplines become interested in the development of various faculties in the individual.

Often a "culture" is delimited by the boundaries of the nation in which it is exists. In numerous cases, hovever, ethnic and other groups within a nation are studied and compared with other groups or the majority of the inhabitants of the country. A rather recent type of subcultural comparisons are studies of differences in language, patterns of child rearing, etc, between social classes within a nation. Interesting as it is, this later category of cross-cultural research cannot, for reasons of space,

be included in this review.

There are many problems involved in cross-cultural research, and not all researchers seem to be aware of them all. In the first place, there is the problem of sampling. The individuals selected should be representative for the culture(s) under study, not only for a particular subculture, which may easily happen. Then there is the problem of measurement. Tests and apparatus often do not function in the same way in different cultures. Even if they do, there is the problem of translation. Instruments must be perfectly comparable, or else differences due to test variations may be wrongly interpreted as cultural differences. Administration of tests should be standardized, though some allowances must perhaps be made for cultural differences. The testing procedure itself may affect individuals from separate cultures differently. Furthermore the variable under study may have a very different structure in the cultures concerned and may in the end not be suitable for comparison at all. There is also the problem of generalization. Some cultures may be in a state of rapid change, which may make generalization difficult.

The research problems, then, are much more complicated then may appear from the simple definition we started with. It is no wonder that cross-cultural research often gives inconsistent and sometimes contradictory results. On the other hand, cross-cultural research at its best is a powerful tool that can cast new light on many important problems. Provided that pitfalls can be avoided, it is often an economic and flexible way of coming to new grips with difficult problems.

The rocketing of migration since World War II poses new problems to cross-cultural research. Migration means new forms of contact between cultures and also the mixing of cultures on a large-scale basis. As a result many cross-cultural research results attract enhanced attention. Migration is in itself a cross-cultural phenomenon and it is clear that cross-cultural research methods and, as it were, a cross-cultural spirit should be brought to bear on the conditions and events of migration. The better we understand its consequences, the more we can aid the acceptance of migrants and their adaptation. Migrant adaptation is not only a problem for the migrants: It is also a major concern for the host population. If social, emotional, economic and educational problems remain unsolved, there is great

danger of a snow-ball effect with increasing difficulties being passed on to the next generation and generations to come.

There is another side of this complex. The more we know of what other cultures are like, and the better we understand why they have come to take the shape they have, the better perspective we will get on ourselves and the better we will understand our own culture and why we behave the way we do.

## THE ADJUSTMENT PROCESS

"The more one studies migration, the more he is struck by its complexity. Defined as a movement of individuals from a country to another with the intention of effecting a lasting change in permanent residence, migration is dependent upon multiple motives among which the demographic, social, psychological, political, cultural and economic are the most important." (Tadeusz Stark, 1967, p 3.)

### "Culture shock" or "Culture squeeze"?

The term "culture shock" has frequently been used to describe how a person experiences the confrontation with an entirely different culture and as a possible explanation of mental illness among migrants such as psycho-somatic disturbances, neuroticism. The present author has used it to describe a state which must be mastered by the migrant (Ekstrand, 1975).

Serious doubt may, however, be cast on the word 'shock'. In connection with immigrant children in Sweden, teachers report that emotional disturbances appear only some time after arrival and, furthermore, seem to be associated with educational and general background, so that pupils with a good background tend to show disturbances (if they do so at all) at a later stage than children with a poor background and poor education.

Parker, Kleiner and Needelman (1969) discuss the concept of culture shock and state:

"The lack of consistent findings in studies of migration and mental illness suggests that the notion of culture shock has limited explanatory value. Some studies have reported higher rates of mental illness for migrants than for natives; others have shown higher rates for natives; and some have found no differences in rates, regardless of migratory status."

They continue:

"Two recent large scale studies of this problem, one using a Negro sample drawn from a large urban center, and the other analyzing the white population of New York State, reported higher rates of mental illness for natives than for migrants. These findings suggest that culture shock either is not a use-

ful explanatory concept, or that it is associated with mental disorder only in particular situations."

Parker et al. (op. cit.) offer an alternative theory. They assume that more differentiated groupings in an urban society provide a more differential status hierarchy. The urban citizen will perceive greater discrepancies between his own achievements and those of the reference groups on different levels of the status hierarchy, which leads to a lower self-esteem than rural inhabitants have. On these assumptions they base the following four hypotheses:

1) Urban migrants have higher rates of mental disorder than rural migrants.
2) Urban migrants have higher levels of goal-striving stress than rural migrants.
3) Urban migrants have greather discrepancies than rural migrants between perception of their own achievement and that of their reference groups.
4) Urban migrants have lower self-esteem than rural migrants.

They administered a 206-item questionnaire, via interviewers, to a sample of mentally ill persons and a community representative sample of the Negro population of a large urban center. Both samples were close to N = 1,500. For further analysis 175 respondents from the first sample and 157 from the second were chosen on the grounds that they had spent the majority of their first 17 years of life in either a strictly urban or strictly rural environment in the South and belonged to an age range (25 - 35 years) with no age differences between rural and urban migrants in the larger samples.

The first hypothesis was supported. There was a statistically significant over-representation of mental illness among migrants of urban origin. The findings for hypotheses 2 and 3 went in the expected direction, but were not statistically significant. Hypotheses 4 was supported: combinations of a) high goal-striving stress or high scale striving stress, b) high reference group discrepancy, c) low self-esteem showed significantly higher rates among migrants of urban origin than migrants of rural origin.

Parker et al. draw the conclusion that global variables like "migration" and "social status" are too heterogeneous to order data on mental illness. They stress the importance of incorporating social-psychological variables into research on social

factors in mental illness. Apart from dispensing with the concept of "culture shock", the findings suggest that an urban environment per se might create psycho-pathological disturbances. This could be predicted also from the following theoretical considerations.

1) An urbanized, industrialized community tends to force both parents to work outside the home. This creates so called "key children" (children with a key on a string around their neck) or even worse, "keyless children". Throughout childhood these children lack basic contact, security and comfort.

2) Even in those cases where the parents or other adults, are at home most of the time, visual, auditive and bodily contact, shown by Harlow to be so important for a harmonious emotional development, is made difficult or impossible in heavily exploited housing areas.

3) In a heavily urbanized area, children may not be socialized in manner that is possible in a small community, but are subjected to "the law of the jungle". The lack of adequate social controls and identification models may lead to deviant behavior.

From all these facts, an increase in mental disorder may be predicted among natives as well as migrants in urbanized areas.

As industrialization proceeds all over the world, migration tends to take a new course. For instance, Allefresde (1973) argues that the migration from Finland to Sweden is of a new nature. It involves skilled workers and takes place between economically, socially and culturally developed countries. "This migration anticipates, beyond any doubt, what will be the pattern of movement of the workers among the industrial countries of Western Europe" (ibid, p 7). This increased migration between urbanized and industrialized areas creates, among other things, the dispositions for mental illness according to the theory of Parker et al. (op cit.).

The concept of culture shock may be discussed in the light of theories of social anthropology and theories of neurosis. Cultural differences are most easily perceived in concrete ways, for instance differences in food, clothes, tools and buildings; and to some extent in behavioral ways, for instance differences in certain social habits and traditions, such as eating and drinking behavior, parties and festivals. On closer study, however, cultural

differences exist in practically all social and individual behavior patterns, most of which are pervasive and deeply rooted, as has been shown in many socio-anthropological studies. In particular, all behavior has a communicative component, the significance of which is often subconciously perceived. In other words, all behavior affects individuals emotionally, in a way that in everyday life usually evades direct observation and analysis. Cultural behavior differences may thus create misunderstandings and conflicts, some of which are unintentional. But behavior may also communicate negative attitudes, which are superficially hidden under a mask of socially acceptable behavior. All this has been thoroughly described and systematized by Hall (1959) as "the silent language". This suggests that cultural stress consists of a number of conflicts, which work oven a considerable period of time. The word "shock" is not a very adequate description of this process.

According to current theories of neurosis, neurotic behavior is created in principally two ways: by a traumatic experience or by a long-lasting, usually subconscious, conflict. A trauma could be caused by an earthquake, a flood, the loss of a personal relationship etc. The confrontation with a new culture does not belong to the category of sudden drastic events. On the other hand, it is obvious that migration creates many conflict situations, which may at length be harmful. From this point of view also, then, the concept of culture shock seems doubtful.

The data presented by Parker et al. are concerned with adults. Our reasoning suggests that their theory is equally valid for children, but this remains to be shown. As to the concept of culture shock, there is no evidence that migration constitutes a trauma for children. There are many indications, on the other hand, that children come into conflict situations, e.g. between the parents' norms and the norms of the host society. Most of the evidence available thus suggests the word "culture squeeze", rather than culture shock, to denote an explanatory and descriptive concept of the process that so often leads to mental and psycho-somatic disorder.

The importance of the ethnic group in the process of acculturation

The importance of "community" in the process of immigrant adaptation is discussed in a paper by Fitzpatrick (1966). The con-

cept of community and the different criteria used to define it have been thoroughly discussed in the litterature of sccial psychology and sociology. Among the most important feelings of the individual are the role-feeling, the we-feeling and the dependency-feeling, i.e. feeling of fulfilling a role, of sharing a culture and of having something that gives security and comfort.

Fitzpatrick (p 8) writes:

"The existence of a strong community among immigrant people and its importance in the process of assimilation has long been recognized. A frequently quoted remark is: One integrates from a position of strength, not from a position of weakness ... If people are torn too rapidly away from the traditional cultural framework of their lives --- the danger of social disintegration is very great."

Fitzpatrick (op. cit.) goes on to cite studies by Kluckhohn (1958), Weinberg (1961) and himself (1955) all of which give support to his reasoning as illustrated above. Now, this is a good example of the danger of inferring from research on adults to children, which one might easily do and Fitzpatrick, of course, does not. It is possible that an adult with a well established, emotionally anchored cultural behavior pattern feels safe when he can communicate with the same kind of persons. But a child comes under a double pressure: on the one hand from other children to dress and behave like them, on the other hand from parents and grandparents to behave according to the old rules. The greater the discrepancy between the cultural behavior patterns, the more numerous and greater the conflicts for the children. As far as I am aware, this problem has never been studied empirically but a reasonable hypothesis is that the belonging to an ethnic group (such as immigrants from a certain country) is for children rather an obstacle than a help to adaptation. This suggests that the ethnic community may play contrary roles for adults and children. Sweden, which is a country with rather free ways concerning e.g. education, or the interaction between opposite sexes, can provide numerous examples of how immigrant children from rural, authoritarian cultures get into severe conflicts.

## Immigrants or ethnics?

The North American continent is unsurpassed as an immigration area. With the onset of modern migration in Europe, a similar situation has arisen here. There are several things to be learned from the history of American immigration, so we rightly regard

it with a new interest. One is the "shortlivedness" of the immigrant. As a rule, after some years the immigrant is no longer an immigrant, but a member of an ethnic group. In any case, members of the second generation are seldom regarded as immigrants.

This shift of conceptualization is discussed by Vecoli (1972). One of his points is made in the title of his paper: European Americans: From Immigrants to Ethnics.

Another interesting thing in Vecoli's paper is the following description, which may be seen as a forecast of the situation in Europe in, say, twenty years time:

"Ethnicity has exercised a persistent and pervasive influence upon American history. Americans have traditionally defined themselves and others as members of ethnocultural groups. On the basis of their origins, national, racial, religious and regional, they have shared with 'their own kind' a sense of common heritage and collective destiny. Ethnic cultures have sustained patterns of values, attitudes, and behaviors which have differentiated various segments of the population. The resulting ethnic pluralism has profoundly affected all aspects of American life. Religion, politics, social mobility, even the conduct of foreign affairs, have reflected this extraordinary diversity of ethnic identities."

If we substitute "European" for "American", this description will probably be true for Europe in the future.

Allefrsde (1973) has pointed out that the immigration from Finland to Sweden is an example of a new type of migration, viz. from one industrialized country to another. Traditionally, migration takes place from an agrarian, usually rather poor area to a wealthier, industrialized or otherwise promising area. The new trend, as exemplified by the Finnish-Swedish migration, may become the prevailing pattern of migration in the world in the future, as new areas are becoming rapidly industrialized.

An illustration of the consequences of the statements above is the distribution of children, belonging to various ethnic groups, and immigrant children proper in Sweden. The number of children actually immigrating is between 4,000 and 5,000 yearly. The number of children of school age, born in Sweden, but of foreign extraction and needing special attention, is estimated to be between 70,000 and 100,000. This means that there are more "ethnic" children in every grade of the Swedish comprehensive school than the number of children added yearly to the total population of the comprehensive school by immigration. The total number of children in the Swedish comprehensive school is about one million.

The statistics are somewhat uncertain, due in part to the problem of defining "immigrant children" and "ethnic children", and in part due to ignorance of their presence in school or existence in the local community. The ignorance is in many cases easy to explain. For example, many Finnish children have Swedish names, though their proficiency in Swedish may be poor. If they are reticent, this may not be discovered. In some cases, the parents do not report their children to the school authorities.

Immigrant and ethnic children have not until recently been included in the Swedish school statistics, due to the mentioned difficulties of definition and data acquisition. The new statistics does not, however, differentiate between the two categories mentioned here (Statistical Reports, 1975, 1976).

Adaptation, assimilation, absorption, adjustment, autonomy, integration, pluralism

There is widespread confusion as to terminology prevailing in the debate of the desirability of assimilation.

Gordon (1964, Chapter 3) reviews the various meanings of assimilation. According to Eisenstadt (1955) this process consists of two main stages, cultural assimilation and social assimilation.

Cultural assimilation is the adoption of norms and behavior patterns, the "universals" of a culture, which are necessary for the survival in that particular culture. A good example of the necessity of acquiring cultural assimilation is to be found in the city of Malmö in southern Sweden. In the autumn of 1974, 49 Finnish gipsy families immigrated to Malmö. 46 of these families were referred to a municipal housing company, chaired by a well-known local politician. However, gipsy immigrants have generally not acquired enough "cultural assimilation" to function well. The housing company refused to let flats to all the families referred to them, arguing that the families should be spread over several companies (and consequently areas), as the problems otherwise would be insurmountable.

The board of the municipal housing company cannot reasonably be suspected of having acted as they did for reasons of profit. Neither can the board be suspected of refusing the gipsies on ideological grounds. Moreover, they declared in public that they were consciously breaking the law against racial and ethnic

discrimination. There is no doubt that they acted from pure necessity.

Social assimilation is characterized by the absorption of the immigrants into the primary groups of the host society, i.e. they can vote, they can become politicians or officials, and they are accepted in all social contexts. This has obviously happened to a majority of immigrants in the USA, but seems to be more difficult in other countries.

More than two stages are, however, discernable. I have suggested a three stage division. (Tillvalskurs: Svenska som främmande språk, 1972.) This was included among the description of objectives for the 160 hour teacher training course on immigrant questions that has been included in the regular training program of the schools of education in Malmö and Linköping. The three stages are adjustment, which is roughly equivalent to Eisenstadt's "cultural assimilation", integration which is a stage, intermediate to the two stages of Eisenstadt. The individuals may have gone a long way towards assimilation, but they still distinctly belong to an alien ethnic group and are in reality representative of this group rather than of any of the primary groups of the host society. Assimilation is reserved for Eisenstadt's second stage, but with the qualification that the individual is no longer, in any circumstance, regarded as a member of any special ethnic group. He may, of course, psychologically share the values of his original ethnic group.

In fact, this three stage division could be expanded to a bipolar scale by adding also negative categories, e.g. segregation and isolation, phenomena which are not unheard of in connection with ethnic groups. The complete scale then, starting with the most negative type of interaction, would read: segregation, isolation, adjustment, integration, assimilation. The reader is recommended to consider upon reading this paper whether the process, condition or phenomenon discussed under the various headings makes for one or the other of the types of interaction of the proposed scale.

It is often claimed, at least in Western societies, that a society which is pluralistic in ethnic, religious, political and many other respects is not only a practical necessity, but a desirable state of conditions that makes for richness of culture. One way of acquiring a pluralistic society could be to allow a high degree of autonomy among the various groups. The

forces of uniformity in the modern society are strong, however. One way to avoid a conflict between autonomy and uniformity would be for individuals to develop a double, or even multiple, identity (to use the popular existentialistic word), or multiple roles or sets of value, if one prefers those words.

Ruth Morris (1972) in a review of Report of the Royal commission on Bilingualism and Biculturalism points out that Book IV, dealing with the cultural contributions of ethnic groups, raises a very important question of theoretical and practical interest: "How many different languages and cultures can a nation include and actively maintain? When does the effort to maintain all these and communicate among them become disintegrative instead of constructive?" (p. 344). In other words, the very effort to support cultural pluralism by maintaining autonomy in various minority groups may become a threat to these groups and in a longer perspective to the culture of the host country. These problems may be particularly pertinent for immigrant countries with a comparatively limited area and/or population like Great Britain, Sweden and the Netherlands, to mention just a few instances. An obvious situation, just to point to one example, is the large minority group managing to get advantages in educational and various other respects, because it is large enough to be politically important. Such facilities may be difficult to organize for smaller minorities which, moreover, cannot exert sufficiently strong pressure to get their claims accepted. Even if a number of small minorities go together in a joint organization, the larger minority is likely to benefit most. Thus the smaller minorities must assert themselves against not one, but many majorities. The unavoidable conclusion is that all cultural subgroups, including the host culture, must adjust to a comparatively large extent, thereby giving up part of their autonomy.

## The concept of acculturation

The word acculturation is very ambiguous and is used in different ways. For one thing, is the Latin prefix ad of ab? Does the concept refer to individuals or groups? It seems that most authors use it with the meaning of ad-culturation, i.e. the weaning to a new culture and new behavior patterns. Spindler and Spindler (1961) suggest that it is a reciprocal process:

"Acculturation is the total adaptive process that occurs in cultural patterning and value systems, group alignments, systems of control, social organization and economy, and in the psychological structures and functions of individuals, as adaptations are

made to the changing conditions of existence created by the impact of populations and their cultures upon each other."

Murphy (1964) and Born (1970) agree that acculturation

a) is a continuous process, and

b) is the normal process in all human societies, as all systems in contact interact.

The general definition thus is too general, but the concept may be useful when restricted to the special situation when one culture is incorporated with another.

Thus, the concept of acculturation is not as applicable for coexisting countries or for autonomous ethnic groups within a society as for individuals who come from one culture to live in another. When Galarza (1971) uses the word in a book title, it is, consequently, hardly ambiguougs: "Barrio Boy. The Story of a Boy's Acculturation".

Thus, it seems that the term of acculturation is less useful in connection with societies or groups in interaction. It seems to be more useful in connection with the individual's weaning to a new culture and weaning from his old culture. It certainly is a less emotionally loaded expression than these discussed in the previous section.

How long does assimilation take?

The American "Melting Pot" theory assumed that foreigners were transformed into real Americans in one generation, or two at the most. Later, sociologists put forward the three-generation theory. The assumption today is that it takes considerably longer before all traces of the origin have disappeared if, indeed, they ever do. Hall (personal communication) has pointed out that the Navahos, the Spanish and the Americans have lived together in New Mexico for three hundred years, without assimilation. They work together in the cities, they speak each others' languages, but they keep their cultures apart.

The present situation in the USA, as far as the research interest is concerned is summarized by Vecoli (1972) in the following way (p. 404):

"These assimilationist assumptions have been called into question by the 'rediscovery of ethnicity' in recent years. White ethnic groups, as well as blacks, Indians and Hispanic Americans, have demonstrated an unanticipated longevity. This 'New Pluralism' has inspired historians and others to explore the ethnic dimension of American life in the past as well as in the present. As a consequence we are in the midst of a renaissance of immigration history. A rich and growing literature awaits the student

of European American ethnic groups, one which is enlivened by divergent interpretations and differing methodologies."

Not only historicians like Vecoli adopt this view, but also members of other disciplines, psychologists, anthropologists, etc. Thus Hall (1969) writes (p. x):

"For, contrary to common belief, the many diverse groups that make up our country have proved to be surprisingly persistent in maintaining their separate identities. Superficially, these groups may all look alike and sound somewhat alike but beneath the surface there lie manifold unstated, unformulated differences in the structuring of time, space, materials, and relationships."

We may conclude, then, that assimilation is a very slow process, stretching over many generations. Even when assimilation seems to be complete, it may be only superficial. This is one insight which Europe may inherit from the USA and use to advantage.

## General conclusions and educational implications

In modern society, there are many components that create stress, conflicts and communication difficulties. Some of these components seem to create as much or even more disturbance than immigration. The concept of culture shock does not seem to have much diagnostic value. Teachers, councellors and psychologists, as well as other professionals, should be careful in classifying emotional or cognitive problems in immigrant children as caused by the act of migration, thereby blocking themselves from a more careful diagnosis.

Types, frequencies and causes of disturbances, as well as problems of diagnosis, will be further discussed in the chapter "Personality, emotion and mental health". Caution should also be exercised in generalising results, obtained with adults, to children. Children are frequently put into quite different situations, and even if the situation should happen to be similar, children may react differently.

The acculturation process seems to be very slow. The concept of acculturation is used here to cover various discernible stages like adjustment, assimilation and so forth. Therefore, a rather long stay in preparatory or reception classes may be advantageous for immigrant children. While it may be right to insist on as fast an adjustment process as possible, nothing is gained by the trying to hasten the process by assigning too short time for the process to work. The correct procedure should

be to grant enough money to hire and train personnel and buy suitable materials in order to ensure efficiency.

The acculturation process is reciprocal, i.e. it affects natives as well as immigrants. Therefore, information to both groups is necessary. For example, the native population should have knowledge about effects of immigration in general, like the contribution to the economy, etc. and specifically about the culture and behavior patterns of the emigrant countries. Immigrants should have as much information as possible before they migrate, on arrival and continously during a period of time after migration. More specific items of information will be suggested in connection with the different sections of this paper.

The information should start in school and should, therefore, be introduced in teacher training, as well as in the training of other professionals, like psychologists, psychiatrists, counsellors and others.

## INTELLECTUAL FUNCTIONING IN A CROSS-CULTURAL PERSPECTIVE

### The development of conservation

According to Piaget, a child passes through different stages regarding conservation of quantities, notions of cardinal and ordinal correspondance and additive and multiplicative compositions. It is assumed that the reader is familiar with Piaget's stages, methods of research, etc., or will try to become so before dealing with the section on intellectual functioning. For good introductions, see Furth (1969) or Elkind & Flavell (1969).

Price-Williams (1969) carried out an investigation on illiterate West African children, belonging to the Tiv of Central Nigeria. He confined his study to conservation of quantities. Piaget maintains that the child passes through three stages regarding the notion of conservation. First, the child only relies on perceptual clues. When the form is changed by the experimenter, the child thinks that the quantity also varies. The second stage is marked by the emerging of conservation, while the third stage is characterized by a complete notion of conservation, i.e. that a certain amount of e.g. clay, peas, or whatever, remains the same, even when form, colour or shape is varied, or whether is is contained in a tall, narrow jar or in a broad, low one. Price-Williams used five age groups with nine children in each group, and the same techniques as Piaget. Most investigations carried

out with European and other Western children seem to support Piaget's theory. Price-Williams concludes: "There seems little doubt from the results that the progression of comprehension concerning conservation postulated by Piaget is evident in these African children". (p. 207)

Marks Greenfield (1966) is strongly critical of Piaget's theories as well as of Price-Williams' results. She is disagrees with Piaget for, among others, the following reasons.

a) In most experiments, age alone is varied.

b) In most experiments, the emphasis has been entirely quantitative.

c) Piaget seems to regard cognitive maturation as a biologically determined, universal sequence.

d) The experiments have been confined to Western middle class children.

She is critical of Price-Williams results chiefly because the degree of schooling was not controlled.

Anthropologists from Boas and Durkheim to Mead and Hall (1959) have indicated more or less explicitly that there are different modes of thinking in different cultures. Marks Greenfield designed a study to investigate experimentally if there are qualitative differences in intellectual functioning.

She investigated 181 children, belonging to the Wolof tribe of Senegal. One group consisted of unschooled bush children, a second group schooled bush children and a third group city children, who attended French schools in Dakar. These three groups were divided into three age groups: 6-7, 8-9 and 11-13 years of age. The children were all tested for conservation of quantity. She gives a very detailed account of the procedures as well as of the results. In this paper we have to confine ourselves to relating some of the main findings, which were:

a) There was a greater difference between schooled and unschooled children (with the environment kept constant, i.e. from the same village), than between rural and urban school children.

b) By the age of 11-12, virtually all the school children had achieved conservation, while only about 50% of the unschooled children had done so.

c) The unschooled Wolof children had a strong tendency to explain what they thought were changes in quantity in terms of action-magic, i.e. the experimenter's pouring water, etc. caused differences in the "water level rather than the varying height and width of the vessel".

d) Making the children do the pouring themselves affected the unschooled children very much. The rate of action-magic explanations decreased considerably. (p. 242)

e) Screening the children from visual perception of certain cues had very little effect, which is in contrast with its effect in hastening conservation in American children.

f) "The most characteristic thing about the unschooled children was the extent to which action is crucial to their representation of the world and the degree to which symbolic representation is, to them, a sequential account of a train of actions."

She concludes (p. 243):

"If these experiments indicate one thing of special importance, it is the way in which different modes of thought can lead to the same results. It has too often been assumed that different intellectual means must of necessity lead to different cognitive ends."

In addition to her conclusions about the qualitative differences between schooled and unschooled children and between American and Wolof children, she makes some interesting observations.

The following statement is of a particular relevance for the debate on how to arrange the education of immigrant children (p. 221):

"The interviews were all in Wolof, as mentioned; but schooling is in French. It is interesting that the skills being learned in French do in fact carry over into thinking and speaking in Wolof. Bush school children, indeed, are almost indistinguishable from American or Swiss children."

Several studies (e.g. Gordon,1923, Husén, 1951, 1969, Heber et al., 1973) have shown that education seems to be a major variable for the intellectual development. If Marks Greenfield's data are correct, they are a major experimental contribution to our understanding of how cultural variables affect the cognitive development. Unfortunately, intelligence is not controlled in her study. It is easy to imagine all the difficulties involved in such a task and, as she points out, it is not likely that any of the groups is biased intellectually. Nevertheless, the possibility remains that the unschooled bush children belong to a different population with regard to intelligence.

A few of her observations concern behavioral differences between the Wolof children and children from other cultures:

"Although they talked much less than Western children do and restricted themselves to answering questions, their patience was monumental and, correlatively, their attention span seemed to surpass by far that of American children." (p. 216)

"The Tiv culture is quite different from the Wolof one in promoting an active manipulative approach to the physical world. Price-Williams describes the children behavior like this: These children would spontaneously actually perform the operation themselves ... Furthermore, they would reverse the sequence of operations, by, for example, pouring back the earth from the second

containers to the first.

Such self-initiated action was never observed among unschooled Wolof children and it may well be the key to the great disparity between the two cultures in spontaneous conservation results." (p. 238)

Goodnow (1969) has made a survey over pieces of cross-cultural research with some points in common, like similarity of tasks and emphasis on the same type of environmental factors, like schooling, but with differences as to cultural setting, and so on. She comes up with the following conclusions (p. 249):

a) In a primitive culture as compared to a developed, there is no over-all retardation across tasks, but "peaks and troughs", i.e. some tasks shift their level of difficulty more than others.

b) Among the conservation tasks that show little or no change are tasks for amount, weight, volume and surface, but not tasks for length, time and speed.

c) The tasks handled less well in "primitive" cultures seem to be roughly such where the child has to tranform events in his head by visualizing or imaging, rather than by more manifest changes.

The last point, says Goodnow, comes as something of a surprise, as it has always been thought that disadvantaged groups would be most handicapped on verbal or abstract tasks and that perceptual or spatial tasks would be more "fair" or "culture-free". Goodnow issues a strict warning against thinking in broad terms like "optimal stimulation" or "over- or understimulation". It may well be that critical factors for intellectual development turn out to be specific experiences. Goodnow cites many studies and data which support her view. This line of reasoning certainly seems to support my own view (Ekstrand, 1971, 1976) that children meeting a very different culture, like some migrant children, must be given other attention and training in addition to language training. Doing this presupposes careful diagnosis and refined methods which we do not at the moment have at our disposal. Some suggestions are, however, given by various authors and these will be dicussed in a later section.

Can uneven intellectual performance, due to cultural differences, be levelled out?

Heron and Kroeger (1974) have made an attempt to train Yugoslav migrant children on concrete operations. They write:

"It is now generally recognised that performance on concrete operational tasks is either delayed or fails to appear fully among subjects drawn from a variety of populations in developing countries (Dasen, 1972) or from certain milieux or socio-

occupational levels in technologically advanced countries (e.g., Grieve, 1974; Graves, 1972). Attention has in addition been directed to evidence of uneven or apparently contradictory performance on such tasks (e.g., Goodnow, 1962; Heron, 1971; Heron and Dowel, 1973, 1974) notably in relation to conservation and multiple classification."

Yugoslav migrant children were trained according to procedures devised by Lomax for conservation training and by Montada and by Inhelder and Piaget for training in multiple classification. Some children were used as controls and given other, verbal training. The pupils were pre- and posttested on tasks of:

1) conservation of quantity, weight and volume,
2) class inclusion,
3) classification and
4) multiple classification.

Children with poor achievement of conservation according to the pretest were divided into an experiment and a control group. The experimental children were trained with conservations tasks, while the controls spent a comparable amount of time reading aloud. A similar procedure was undertaken with pupils with a poor performance in multiple classification.

With conservation training, both experimental and control group gained similarly. With multiple classification, effects of training were significantly evident in the experiment group.

The authors write (p. 12):

"The present study is, as far as the authors are aware, the first to involve the use of training procedures with children of one linguistic and cultural background who are living in and being educated by the environment of another, at an age by which the basic operations of the 'concrete' period are usually well on the way to being established."

I fully agree with them that they open up "a fruitful and significant field of study for further understanding of cognitive development". Pertinent to this discussion are the results of Andersson (1973) which show that the development of conservation is a function of age (which in the case of the Swedish children studied includes the impact of schooling) and intelligence. With higher intelligence, conservation is acquired earlier. About 80% of Swedish children in grade 7 have not acquired enough conservation of quantity to meet the demands presented by the instruction in physics. Assuming that the results are valid, it seems that a change of curriculum or special training or both would have to be undertaken.

Cognition, language and thought

Vernon (1967) tested a sample of 50 Ugandan boys aged 12 and attending primary school with 24 different tests of intelligences, perception, and creativity. The sample was, with respect to parents' occupation, far superior to the East African population in general, but would be fairly typical of urbanized Africans.

All raw test scores were transformed to a standard scale with a mean of 100 and a standard deviation of 15; values which are representative for boys in S.E. England. The East African boys scored generally lower than English boys or around 87 on the average, but the most striking fact is the large spread, from 57 to 115. The same test battery was given to a sample of 40 Canadian Indian boys and a sample of 20 West Indian boys from Kingston, Jamaica who were similar to the Ugandans with respect to socioeconomic variables. There was a large similarity between the East African and the Jamaican boys, $r_{rank}$=.90, but less so between the other groups (East African - Indian .62; Jamaican - Indian .65).

Vernon (p. 89) concludes that it is possible to discern cultural influences which plausibly account for the high and low scores (of. Goodnow's conclusions, p. 21). The poor understanding of English is almost certainly the major educational difficulty. The methods of teaching develop "a remarkable capacity for rote learning". The "severe deficit" among Africans in 3-dimensional perception affects a variety of tests, mostly of a spatial and perceptual nature including some Piaget tests. Child rearing habits tend to inhibit cognitive and perceptual development. Abstract thinking is to some extent stimulated by homes that encourage resourcefulness, such at those of the Buganda tribe (of. the chapter on perception, pp 28-35).

Vernon notes the following educational implications. There will continue to be general learning difficulties among East African pupils until there are large changes in child-rearing practice and in teaching methods. In addition, improvements in material conditions, health, and nutrition are needed. If education is to be given in a second language new approaches are needed to teach pupils to understand and think in English. Concrete activities must be introduced to compensate for the poor psycho-motory stimulation at home, such as handiwork and visual and constructive arts. In Tanzania, the situation is wor-

se, as many children first have to learn Swahili and then English as their third language.

Similar conditions of early deprivation seem to prevail among children from the Turkish and Yugoslav mountains. It is not known, however, if the intellectual deprivation in these children is as serious as that of the East African children. Probably many of Vernon´s proposals are applicable to some culturally deprived East European children.

As in the case of the East African children, intensive training in the new language is needed for immigrant children from culturally deprived areas. Such training must be complemented, however, by the kinds of activities, proposed by Vernon, i.e. handiwork, visual and constructive arts, and suitable teaching methods in general.

At present, research is going on all over the world on early learning, in infants and especially on the interaction between mothers and children. It has been shown that the parents, and in particular the mothers, are the main mediators between the child and the environment. The teaching strategies of the mothers strongly affect and mould the educability of the children (Hartman and Haavind 1976). The mother´s mode of instruction and their ability to adjust their instruction according to the children´s performance on a construction task strongly affected the children´s development of problem-solving ability (Middleton and Wood 1976). A similar adjustment of mothers´ speech to their babies, reflecting their children´s growing ability to function as conversational partners, has been demonstrated for two mothers with babies between 3 and 18 months by Snow (1976).

The role of cognitive processes in the development of speech has been demonstrated by Clark (1976), pointing out that linguistic processes involve a good deal of problem-solving in that the listener must infer the referents of many words, and by Glucksberg (1967) who has demonstrated that referential communication develops with age. Bruner (1976 b) also, in his studies of the transition from pre-linguistic to linguistic modes of communication during the first two years of life, concludes that communication involves problem-solving and that communication is a means to achieve an end. Thus, it becomes almost self-evident that "the childs´ knowledge of language is deeply dependent upon a prior mastery of concepts about the world to which language will refer" (Bruner, 1976 a, p. 266). This was also demonstrated

by Halpern and Aviezer (1976), who showed that object permanence as defined by Piaget appears before the appearance of linguistic structures such as verb-related constructions (agent-action, action-object). Such findings make the idea of Chomsky, Lenneberg and McNeil that linguistic rules are innate and develop independently of intelligence appear to be an extreme position (Halpern, 1976, p. 1) and in my opinion, very doubtful. A better formulation would seem to be the statement that the ability to acquire linguistic rules is innate, but what rules there are and to what extent, and how, they are acquired is determined by the environment.

As the research discussed in the preceeding two paragraphs is not yet cross-cultural, we cannot go into a more detailed discussion within the frame-work of this paper. The research is so important that it should be mentioned, however, as it sheds light over Vernon's (op. cit) recommendation of changes in child rearing practices in culturally deprived areas. This new type of research, which no doubt will become cross-cultural in a near future, moreover leads to the conclusion that early cognitive development is important not only for school achievement in general but also for the development of language. It also reveals how language is intertwined with other cognitive functions. My own conclusion is that language is not thought, but part of thought, in contrast to the old notion of Vygotsky. Surely, the penetration of these fine, early mechanisms will teach us something about the way that SES differences come about by influences from early environment. Surely, this line of research supports the ideas of Heron & Kroeger (op. cit.) that cognitive training of migrant children is feasible and it also gives some insight into how this might be accomplished.

The same opinion is put forward by many authors. For instance, Voyat (1971/72) calls attention to Furth's studies, showing that deaf-mute children "acquire elementary logical operations with only a slight retardation as compared with normal children" (p. 249). Both groups pass through the same developmental stages. On the other hand, blind children appear to be retarded about four years in cognitive development. Apparently language alone does not compensate for the sensory less. Voyat (op. cit.) conducted cross-cultural research which appears to illustrate the relationship between language and thought. The Lakota language, spoken by the Siox indians, lacks forms to

designate the future or the past and is thus a concrete language, dealing with the present. In the words of Voyat (p. 250) its spatial-temporal organisation is poor, but it does not lack abstractions. Voyat could show that the Sioux children pass through a similar pattern of cognitive development (as measured by class-inclusion and seriation, i.e. "a dog is an animal" or organizing series of sticks) as Piaget's Genevan children. In other words, the basic process of cognition seems to be a function of sensorimotor experience, i.e. actions, rather than of language. Voyat concludes (pp. 250-251):

"Language is not the source of logic, but is structured by logic. Intelligence is not a set of linguistic structures, language is an instrument of thought and communication as part of an overall intellectual activity."

Dimitrowsky and Almy (1972) tested a large member of children in kindergarten, first grade and second grade on three conservation tasks in order to see if the children who had achieved conservation could also verbalize an explanation. It turned out that the five-year-olds who had achieved conservation were able to explain their answers to a significantly less degree than the older children. Furthermore, the mean verbal intelligence was almost the same in the three groups. This result seems to imply that the achievement of conservation is not coupled to or guided by verbal abilities.

Finally, an example of a very complicated type of research will be mentioned, in which the influence of biological and environmental variables is studied cross-culturally. Reyes-Lagunes, Morales and Velázques de Tenorio (1976) compared the impact of age, sex, SES, degreee of urbanization and two different cultures, viz. the USA and the Mexican cultures in several studies.

Summarizing the results from these studies, Reyes-Lagunes et al. conclude that age seems to be the most important variable. There are differences in the rate of cognitive development cross-culturally with the low-class Mexican female at the bottom and the upper class American male at the top. There are differences in school children's rate of development intraculturally, due to SES and sex. In Mexico SES and urban-rural habitats produce intracultural differences: blue-collar children do better than lower class children. The author's distinction between blue-collar and lower class children probably reflects the fact that

unemployment and extreme poverty is common in Mexico and that blue-collar workers in comparison is a privileged class.

General conclusions and educational implications

Cross-cultural research has demonstrated that the cognitive development may vary between children from different cultural settings. Education has been shown to be a major variable in producing such differences.

It seems as if a comparatively simple metod of training produces results, at least in some respects within a reasonably short period of time.

The research work suggests that children with a poor educational background and/or of a poor socio-economic status should be subjected to diagnostic tasks, preferrably with norms for different age and intelligence groups. Pupils who fall behind in one or more aspects of cognitive development should be given a training programme, which should be followed up by means of the diagnostic material.

The types of training could be specific training on Piaget tasks or general training in handicraft and visual and constructive arts. Suitable teaching methods, use of technical aids and other educational practices should be spread by closer cooperation between school authorities in immi- and emigrant countries. Joint committees and working groups should be set up internationally, in the spirit of the Helsingfors declaration.

Generally, the education of migrant children should be systematically designed, including intensive second language training, native language training, cognitive, perceptual, spatial and psycho-motor training, so as to coordinate linguistic and cognitive development.

As an alternative to pre-school education, adult education of immigrants might prove more efficient for the goal of early intervention, as adult education indirectly affects children from birth and onwards, which no pre-school program can ever do.

Money must be given to further research, basic research as well as the design and development of teaching materials, diagnostic instruments and teaching methods for immigrant children.

Successful training should make it easier for immigrant as well as other children with a poor cultural or educational background to follow the curriculum.

## Visual illusions

Segall et al. (1963) used four illusions (the Müller-Lyer illusion, the Sander Parallellogram, and two forms of the Horizontal-vertical illusion), which they varied so that 39 items were obtained. 13 samples from different places in Africa, one sample from the Philippines and three Western samples, two from USA and one from South Africa, were tested. Great efforts were made to ensure that answers would not be dependent upon difficulties to understand the instruction or other communication difficulties.

Different statistical analyses revealed the following findings. There were statistically significant differences between the Western and non-Western samples. The Western samples were more susceptible to the illusions of Müller-Lyer (M-L) and Sander, but less susceptible to the two Horizontal-vertical (H-V) illusions. A factor analysis showed that the two latter formed one factor and the other two another factor. This, of course, makes the difference reasonable. Furthermore, they agree with River's results, obtained at the turn of the century. Children were more susceptible than adults. The results point to culturally determined causes of the differences. In Western, urbanized societies rectangularity is prevalent in the visual environment, which might explain the results of the Müller-Lyer and Sander illusions. The results on the Horizontal-vertical illusions might be explained by the openness of terrain, which is typical for most of the non-Western samples. This kind of analysis should be carried further but the most likely explanation is that the cross-cultural differences can be ascribed to learned visual inference habits.

Bagby (1957) showed stereoscopically pairs of photographs to 12 American and 12 Mexican subjects. There were ten pairs of pictures. In every pair, one picture was a typical American scene or person and the other a similar, Mexican equivalent, e.g. a wedding. Usually, the subjects saw but one picture. In some cases, the subject saw one picture first and then, gradually, the other ("binocular rivalry"). The results are shown in table 1.

Table 1. Differential selection of American content in ten stereograms (data from Bagby, 1957).

| Nationality | Number of subjects selecting American content<br>Number of stereograms<br>5 - 10 | 0 - 4 |
|---|---|---|
| Mexican | 0 | 12 |
| American | 12 | 0 |

Scenes from the subjects' own culture tend to be perceptually predominant. This is interpreted by the authors in terms of transactional psychology: past personal experiences play an important role in perceptual processes, and previous, rather than present experience dominates this structuring.

Jahoda (1966) has tested the assumptions of Segall et al. (1963). He used the M-L and the H-V illusions. Four samples were used, three illiterate samples from Ghana and one undergraduate sample from Great Britain. The hypotheses were as follows:

1. Lobi and Dagomba, living in open country in round huts, will be more susceptible to the H-V illusion than the Ashanti.
2. Ashanti, living in dense tropical forest in rectangular houses with "carpentered" furniture (i.e. with angles), will be more susceptible to the M-L illusion.

The results were that the Lobi were least susceptible to the H-V illusion and Dagomba most; the Ashanti and the Europeans fell in between. All differences were statistically significant.

On the M-L illusion there were no differences. None of the hypotheses were supported and the Segall et al. results were not confirmed. The reason for this is not known, but the problem certainly seems to be more complex than Segall et al. have suggested.

Allport and Pettigrew (1957) have investigated the trapezoidal illusion on Zulu and European samples.

Fig. 1. The trapezoidal illusion apparatus.

As the figure shows, there is a trapezoid in the form of a window. This is rotated, always in the same direction, by a motor at a constant speed. The movement is usually perceived as a swinging to and fro rather than a revolving. Four samples were tested.

Table 2. Mean number of individuals reporting illusion under four conditions (data from Allport & Pettigrew, 1957).

| | | N | Average number of "Yes's" |
|---|---|---|---|
| Group A | Urban European boys | 20 | 3.25 |
| Group B | Urban African boys | 20 | 3.30 |
| Group C | Polela Rural Africans | 20 | 2.70 |
| Group D | Nongoma Rural Africans | 20 | 2.15 |
| Total | | 80 | 2.85 |

The difference between acculturated and unacculturated groups is statistically significant. The subjects were boys, 10-14 years of age. The unacculturated Zulus live in round huts, without windows. The analysis shows further that the difference does not exist under optimal[1] conditions, (at a distance of 20 feet monocularly), but under all other conditions (10 feet binocularly and monocularly and 20 feet binocularly), and that it is largest under least optimal conditions. It therefore seems that cultural experience helps to determine the nature of perceived movement under marginal, but not under optimal conditions.

The authors believe that under "marginal" conditions there is a perceptual conflict and that "urban children resolve the conflict with the aid of the supplementary assumption of 'windowness'. Not being able to draw on this supplementary assumption, the rural children as a rule resolve the conflict in favor of the binocular or 'true' evidence"(p. 47 ). The difference between the Polela subjects and the Nongoma subjects may be due to the fact that Polela live closer to Durban and ar thus more influenced by Western culture, e.g. its architecture. This difference consequently supports the authors' conclusion.

Pictorial depth perception in unacculturated groups

Hudson (1960) has studied how 11 illiterate and literate samples perceive two-dimensional representation of three-dimensional objects. He studied white and black groups in Africa. There were two samples of illiterate black mine workers, five samples of black or white school children in various grades, one sample each of black teachers, black mine laborers with primary school, black mine clerks with high school and white laborers.

The stimulus material consisted of six pictures and one

1) "Optimal" is, in this context, equal to a high probability to perceive the movement as the illusion. This was investigated in a separate controlexperiment.

photograph, in which the following three types of conventional cues were used:

1. Object size (a large object is perceived as closer than a small).
2. Superimposition of overlap (the overlapping object is perceived as close).
3. Perspective (parallel lines converge with the distance from the viewer).

The pictures all contained an elephant, far away, an antelope to the right and rather close to the foreground, and a man in the foreground, aiming at the antelope with an assegai.

School-going attenders predominant saw three-dimensionally (more than 50% of the answers), except a grade 1 white sample, where the percentages were around 30. A study of the school attenders showed that children gradually acquire three-dimensional perception of pictures between the ages of 6 and 12 years.

Formal schooling is not enough to produce three-dimensional perception. The white laborers do not perceive three-dimensionally, in spite of schooling. They live very isolatedly, however, and their homes are poorly furnished with pictures, books and newspapers. The same thing applied to the other samples, where no or very few three-dimensional responses are obtained. Thus cultural influence seems to consist of two types: formal education and informal training, mainly in the home environment. Because of the educational implication, Mundy-Castle (1966) made a study of the depth perception of Ghanaian children, aged 5-10 years. Visual media are used extensively in teaching in Ghana and Mundy-Castle wanted to examine if they are so readily understood as has been assumed.

Four pictures from Hudson's (1960) study were used. 122 children were tested, all of whom had attended primary school since their fifth or sixth year.

As in Hudson's study, there were many misidentifications, e.g. the horizon line was taken for stick, line, rope, ruler etc., and so on for all the objects and representations. These misidentifications decreased with age. Only one child gave three-dimensional answers to two of the pictures. All other answers were two-dimensional. Studies of the childrens' environment revealed no evidence of activities such as reading, drawing, painting, looking at pictures, etc., and it was unusual for a child to have used a pencil before going to school. In most African

schools, no formal training in pictorial perception is included in the curriculum (Hudson, 1960). This is in striking contrast to developed countries. In Sweden for instance, this kind of training comes about in drawing (perspective), mathematics (reading diagrams and curves, which is introduced in grade three), science (constructing diagrams and graphs) and study technique (interpreting various pictorial material).

In all, the hypothesis of the cultural influence on pictorial perception, put forward by Hudson (1960), is supported in Mundy-Castle's study.

## Color perception

It has long been a puzzle why ancient cultures and primitive tribes lack names for a great many colors, especially green and blue. Woodworth (1910) has made a survey over some of the early research on this. He mentions the fact that it is possible to find about twenty names for colors towards the red part of the spectrum, but only about half a dozen names for colors on the other half. Magnus, according to Woodworth, in the 1870 ies sent out a questionnaire, with a set of colors to be named and distinguished, to missionaries and traders.

He found that members of primitive tribes can see and distinguish all the colors from red to violet, though they usually did not possess names for all of them. This shows that the difference between primitive cultures and developed lies in vocabulary, not in color vision. Many authors have offered various explanations. It seems that Woodworth in his 1910 paper has offered a likely explanation, which should be very difficult to disprove.

He concentrates on existing vocabulary, rather than the missing, and asks why this vocabulary has developed. He points out other instances of lack of names for sensory qualities, though the qualities demonstrably are there, like the areas of taste and smell.

"The color of an object is not a practically important character, except as a ... means of identifying the object and distinguishing it from the background. It is where color serves as the mark of an important object, or condition of an object, that a color name would be most likely to develop. But a color name need not always develop even in these circumstances, for practical tendencies lead us to pass quickly from a sign to the thing signified, and to speak of the thing signified rather than of the sign. We speak of a grey patch in the sky as a cloud, of a red spot on the skin as blood; we speak of a berry as ripe rather than red, of a knife as rusty rather than brown, of meat as well done or rare rather than as brown or red.

Such considerations make clear the lack of a need for color names, and account for the widespread poverty of languages in such names. They also help to explain why red and yellow are so much more generously supplied with names than green and blue.

Green and blue, in nature, are predominantly background colors, while red and yellow are usually the colors of small objects contrasting with the background and recognized most readily by their color. More than this, red and yellow are the usual colors of such important objects as ripe fruits, domestic animals, wild animals to be hunted or avoided, blood and flesh. Particularly in distinguishing cattle from one another, for purposes of barter, or for many other purposes of the herdsman, is it necessary to use the color as a mark, and to designate an individual by its color. If cows had affected the blues and greens, the history of color vocabulary would probably have been quite different." (pp. 10-11)

One comment is necessary. Woodworth (op, cit. p. 10) says: "The matter now appears to me - after several years of consideration - rather simple and devoid of psychological interest." Nothing could be more wrong. Findings like this are of the utmost importance, because they help to define where people differ from cultural reasons, rather than biological. There is a more intense debate than ever on the questions of heritage and environment.

Without taking sides in this matter, it can be said that Woodworth's paper seems to show that, in the field of visual perception, there are no biological differences. This points in the direction that there are biological universals, which may take different practical shapes, according to circumstances.

But when such biological universals are investigated, and pointed out, by researchers in the fields of medicine, zoology and etiology, they are attacked with a reference to cultural differences. Even though centra for love, aggression, etc., have been clearly demonstrated in the hypothalamus and the limbic system, see e.g. Smythies (1970) people tend to deny the biological basis. Aggression, conflict and the like are said to be cultural phenomena. It is denied that joy, sorrow, hate, love and anger are universal phenomena, though this was proved by Darwin (1872). In short, people tend to forget that it is differences between men that may be explained by cultural circumstances, not the phenomena per se.

It is most important that cultural and biological factors are recognized, like in Woodworth's paper. Ignorance and one-sidedness in the debate should be attacked. Cross-cultural research is likely to help in clarifying issues, because universals and cultural variation tend to be highlighted in such research.

Ray (1953) gives some supplementary evidence, though he probably has not read Woodworth's (1910) paper. Different cultu-

res seem to divide the spectrum differently. According to Ray, color systems are not based on physiological, psychological or anatomical facts, but on quite arbitrary. in fact culture determined grounds.Even very primitive cultures always seem to have a basic color system.

"The basic color system is the foundation of precise behavior with respect to the world of color. The cultural repertory of experience provides appropriate behavior - utterance of the proper color term, for example - when perception occurs. No individual variation is permitted within the culture in this respect, except it be interpreted as error, and all normal persons perceive nearly equally well."[1] (p. 19)

Ray worked with a stimulus material, consisting of flat, pigmented surfaces. On basis of the results, he was able to draw a chart, with physical wave length on the ordinate, showing how different cultures divide the spectrum. "Frequently the type for a color in one system is located exactly where a division between colors is found in another pattern." (p. 20)

The primary reason for variation in color terms from culture to culture seems to be cultural tolerance or encouragement, not differences in linguistic structure. Color descriptors follow no system like color terms do.

Ray asks many questions: "Is man´s richness of perception limited by behavioral response in terms of pattern?" Such a pattern is a language with very few categories when man may perceive an unlimited number of varieties. "Does the artist see the world more richly and rewardingly beacause ha divests hemself of cultural patterns,and thus becomes less of a human being?"

"With a few more researchers at work and a few more years of time we should have answers to numerous basic problems of culture and perception." (p. 21)

General conclusions and educational implications

There seems to be cross-cultural differences in various perceptual skills. In visual illusions variations in the physical environment must be rejected as an explanation. There is no differences between European and African boys, while there seems to be a difference between urban and rural African boys, however. The variable producing the differences may well be the degree of schooling, though this has not been clearly demonstrated.

For depth perception, on the other hand, formal schooling seems to be of importance, although it probably does not explain

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1) Ray distinguishes between color terms proper and color descriptors.

all the variance. It would seem as if schooling in interaction with the rest of the environment may produce differences in perception. Age may also play an important role in the development of perceptual skills. It is well known from other areas of research that distance in visual perception is increased with age, as shown by Sandels and others.

While there do not seem to be any biologically determined differences in color perception, there are certainly culturally determined differences in color terms and in the division of the spectrum.

Age norms for tests should be established so that the degree of perceptual development could be determined for pupils in preparatory classes. Training in e.g. perspective drawing, naming colors, interpreting pictures, curves and diagrams should be given to pupils whose perceptual skills are not developed according to their age.

It may well be that the "cognitive limit", spoken of by school psychologists and councellors, and which is not helped by language training, but rather seems to be an impediment to language learning, consists of cultural differences in the cognitive and perceptual development. It seems as if language training should be coordinated with other kinds of intellectual training, given according to the results of diagnostic testing procedures.

## BILINGUALISM

### Definitions and measurement of bilingualism

When a person can use more than one language, it is called bilingualism. Many definitions have been proposed, as trying to find a good definition is a normal first step, when a problem is being attacked scientifically. No single definition has been agreed upon out of at least twenty proposed. This really is a practical problem of considerable importance, in studying the effects of bilingualism on intelligence and school achievement.

Discussions and reviews of definitions of bilingualism are found e.g. in Darcy (1963) or Skutnabb-Kangas (1975 b). The earliest definitions were also the strictest, e.g. Bloomfield´s notion of bilingualism as "the native-like control of two languages". Strict as it may sound, this definition still leaves the meaning of "nativelike" an open question. Eventually definitions changed from grammatical to functional, like Mackey´s "the alternate use of

two or more languages by the same individual". Some authors clearly recognize two very important points, viz. that bilingualism is a matter of degree and that language has different aspects, like speaking, listening, reading and writing. Tan, e.g., thought of bilingualism and monolingualism as opposite extremes of a number of continua, one for each aspect of language. One could add that the degree of bilingualism also is a relative question, as full bilingualism or complete monolingualism may vary according to the criteria chosen.

Recently the term "semilingualism" has come into use, implying that the competence in one of the languages is not sufficient for the speaker's needs, e.g. immigrant children who are forced to use a foreign language in everyday life. "Double semilingualism" is sometimes substituted for bilingualism, especially when second generation immigrant children are concerned, meaning that nor the "native language", neither the "new language" are mastered satisfactorily. This is due to the special circumstances in which many migrant children live, speaking one language at home and another at school.

When two languages are used, one of the languages typically is used in certain situations and the other in other situations. In bilingual areas, both languages would not survive, unless they fill different functions. Furthermore, these functions are often ordered according to a social hierarchy, e.g. the official vs. the private life or social classes. These phenomena have recently caught the interest of sociologists and a new discipline has arisen, sociolinguistics. A new terminology and a new theoretical framework has been constructed. Alongside "bilingualism", the term "diglossia" is used, meaning that two languages are used in different social contexts. The term could also refer to dialects or varieties of one language, so in a sense it is used in a more general way than "bilingualism". On the other hand, diglossia is used to specify the state of society, not the individual (Skutnabb-Kangas, 1975 b, Fishman, 1968), while bilingualism or diglottism seems to be used to specify the state of the individual. Thus a term has been created, covering in part the same content as "bilingualism", in part another content, and being used partly in the same way as "bilingualism", partly in another way. The new discipline is eager to create a new scientific jargon. Instead of "social context" or "social situation", the word "value cluster" is used, etc. All this is very confusing, especiall as the new concepts and terms are somewhat floating, being used in different ways

by different authors. One of the inventors, Fishman, issues some words of caution (1968):

"The underlying framework for this theory is sociolinguistic and, more generally, sociological; thus, while it seeks to make obvious and basic provision for psychological and, particularly, for linguistic inquiry, the entire venture is unified or integrated via considerations, derived from the sociology of language. In terms of the theory/methodology as a whole, the statement must be considered as still untested and unrevised, i.e. as 'programmatic'." (p. 34)

The concept of bilingualism or equivalents as "semilingualism" or "diglossia" should cover at least the following types of situations:

1. A minority group has its own language, social hierarchy and culture; the group does not interact very much with the rest of the population. Examples: Gypsies. Lapps in Scandinavia, Indians in North America.
2. A population uses more than one language, as in Canada or Switzerland.
3. More than one language is used in a certain area, such as Wales or Friesland, where an original, native language is used together with the majority language.
4. Border areas, where the languages of the two adjoining countries are spoken on one or both sides of the border, e.g. Tornedalen, the river valley between Sweden and Finland.
5. Immigration, where the immigrants speak their native language and are forced to learn at least some of the language(s) of the host country.
6. The following generations of immigrants. The problems of the first, second, third and fourth generations of immigrants are distinctly different.
7. Small nations, such as Sweden, where most of the population learn a major modern language, e.g. English. In Sweden large groups learn two or three languages.
8. "Pure" diglossia, e.g. High and Low German in Switzerland, classic and Egyptian Arabic.
9. A variety of combinations of two or more of the situations listed.

In this paper, the term "bilingualism" will be used throughout, as it is the least ambiguous, value-free and most comprehensive one presented so far.

In actual research these logical definitions should be

replaced by operational definitions, i.e. degree of bilingualism should be defined by the method of measurement or assessment used.

Most methods of measurement consist of formal or informal tests. Some tests measure the skills in the different languages separately. Any language tests may be used. Other tests are designed to measure the skill in each language relative the other. Often the time for a response in each language is measured, or the number of responses in each language per time unit. Both types of measurement have advantages and disadvantages. The main difficulty for both types is to construct perfectly parallel or equivalent tests.

Methods of assessment consist of questionnaires, interviews and demographic background data. Questionnaires may ask for selfratings of degree of bilingualism or data about type and frequency of situations where one or the other languages is used. Relatives and friends can also be used as informants.

Early studies of the effects of bilingualism on cognitive factors

Natalie T. Darcy has written two reviews of the literature on bilingualism and its effects on the mental development. Her reviews includes many classics, such as Jones (1952, 1959), Altus (1954), Saer (1924), Darcy (1946), Johnson (1953), Arsenian (1937) and many others, which for reasons of space will not be reviewed in detail here. In her first review (Darcy 1953), she sums up the research until 1950. She arranges papers according to data showing a) positive effects on intelligence (2 reports), b) unfavorable effects on intelligence (21 reports), c) no effects on intelligence (11 reports).

The two favorable studies suffered from some serious faults. In one, the degree of bilingualism was not controlled and it is doubtful whether there as any real difference between groups. In the other one, neither degree of bilingualism, age, sex, nor SES were adequately controlled. An examination of the unfavorable reports shows that tests are purely verbal or have verbal elements and also have elements of the culture of the majority language, as they are standardized on that population. A general trend, however, is that in all studies where nonverbal tests have been used as well, the difference between bilingual and monoglot groups disappears. In some cases, the bilingual groups even get better results than the monoglot groups, especially when age, sex and SES are controlled. The same kind of results are found in the

last group of studies.

In her review of research 1950-1960 (Darcy 1960), she abandons the rather artificial division of papers according to type of results. Instead she groups reports into a) studies of Spanish-English bilinguals (9 papers), b) studies of Welsh-English bilinguals (5 papers), and c) studies of other bilingual subjects (4 papers). This division and the number of papers in each group gives an idea of the direction of research during this decade.

The studies in the second review are as a rule of a better quality than the early ones, in that background factors are better controlled. The major tendencies of the collected research seems to be the following. Monoglots have a higher mean intelligence on verbal tests than bilinguals. This difference tends to increase as the degree of bilingualism increases and vice versa. This tendency seems to imply that bilingual subjects do have a serious handicap of a verbal nature.

When non-verbal tests are used, differences in many cases disappear. In some cases, however, differences remain even on non-verbal tests. When SES is well controlled, also these differences tend to disappear, except in some single instance. These tendencies seem to imply that bilingualism does not affect the general intellectual development negatively.

It cannot be excluded that bilingualism may have some positive effects. We will have to turn to more recent research, however, before any definite conclusions can be drawn.

As a rule, these early studies rarely control all important background factors (i.e. independent variables), such as degree of bilingualism, SES, degree of urbanization, age, sex and attitudes all of which in other contexts have been shown to affect measurements of intelligence.

Peal and Lambert (1962) used various types of intelligence tests in order study the possible effects of bilingualism upon the structure of intelligence. The subjects were 10-year-old pupils from six schools in Montreal. Degree of bilingualism was decided by a number of criteria, as was socio-economic status (SES). The findings were that the bilinguals performed better on all tests, verbal as well as nonverbal. Factor analysis suggested a difference in intellectual structure, bilinguals having a more differentiated structure than monoglots. In contrast to other studies, e.g. MacNamara (1966), no retardation in school achievement was found in the bilinguals. Instead the bilinguals were significantly

ahead of the monoglots. The authors offer as the most likely explanations that bilingualism is an asset that makes for easier and freer concept formation, not being too dependent on language, and that it makes for greater mental flexibility. The possibility of selfselection cannot, however, be ruled out. In a competitive society the most intelligent children may become bilingual. This alternative hypothesis immediately poses the question why there are contradictory results, MacNamara's study being the best known example. The suspicion that SES is not well controlled is always at hand. MacNamara's seven step scale of SES is not completely convincing. For instance, differences between the steps seem very small.

The relation between the first and second language (L 1 and L 2)

This problem is treated more extensively in Ekstrand (1976 d) and will be only summarized here. Toukomaa (1975) and also other authors have claimed a strong dependency of L 2 on L 1. Data from a number of large-scale studies, including Toukomaa's own, reveal, however, that correlations in various language variables vary within the range .20-.50, or 4-25 percent variance in common. This association, although by no means negligible, is astonishingly weak in view of the strong claims made by Toukomaa and others. This conclusion is strengthened by the fact that part of the correlation can be explained by general cognitive functions, interwoven in language functions, as discussed by e. Clark (1976). The correlation between purely linguistic variables is thus only low to moderate.

Another way to test this is to compare pupils with different native languages with respect to their achievement in the same target language. Such a comparison was made by Ekstrand (1976 d) and gave significant differences for a number of language variables, but the differences were small and the omega squares (a measure of the degree of explanatory power of the independent variable, in this case native language) were very low, indicating that native language does not play a major part in L 2 learning. It is likely that foreign language learning is a function of other factors besides L 1, such as general cognitive, perceptual and psycho-motor development.

The same explanation probably holds also for the increasing number of studies, showing that, contrary to common belief and early studies, L 2 is best learnt at older ages (Ekstrand 1976 c).

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Toukomaa's (1975) explanation that these results are explained by the more advanced development of the native language at higher ages can at best be only part of the truth, in view of the rather weak association between L 1 and L 2.

Lemon (1975) studied 60 Tanzanian secondary school boys with regard to their linguistic development and conceptualization, using Kelly's role construct repertory test. This test is a means of operationally determining whether different terms, or terms from different languages, can be considered to represent the same "personal construct". This is done by the use of ratings. For example, if the English word "intelligent" and the Swahili word "akili" were alternative labels for the same underlying construct, we would expect people who were rated high on "intelligent" to be alse rated high on "akili". All boys had learned to speak one or the other of the Bantu vernacular languages as their first language. Swahili is the medium of instruction for the first seven years of education. It is learnt in the home before entering primary school and can be considered to be the normal language in social contexts outside the immediate family. English is used as the medium of instruction during secondary education, but is restricted in use to the class-room situation.

It was expected that ratings should be less polarized in the language with the greatest deficit. This was also shown to be the case. It was further expected that the language which is more socially appropriate for certain contexts should allow more extreme ratings. This was proved to be the case, although to a smaller extent. It was expected that the integration of construct systems, i.e. the relations between sets of terms, measured by the strength of relationships between constructs, should be weaker in the less developed language or in the socially less appropriate language. Social appropriateness was studied by using constructs related to personal relations within or outside the classroom situation. In the first case English is the more appropriate language, in the other situation it is Swahili. Only the hypothesis of system integration being affected by appropriateness was supported, while the hypothesis of influence of linguistic development was not supported.

Lemon (p. 185) interprets the results as implying that there is no automatic transfer of categorizations and discriminations from one language to the other, nor of relationships. The author restricts this interpretation to similar tasks, as other

research such as that of Lambert and Tucker has demonstrated transfer, e.g. of mathematical concepts, across linguistic boundaries.

In may opinion, Lemon´s results stress the rather self-evident fact that language is content, not only form. The semantic content in language is learnt in cultural settings. Transfer of concepts is probably easier the more abstract the level of concepts, which would account for Lambert and Tucker´s results. Concepts and their linguistic labels must be learnt simultaneously, which presupposes that concepts be there first. The importance of learning the semantic content and forms simultaneously is sometimes overlooked in teaching, e.g. if the teacher concentrates too much on forms or relies too heavily on abstractions such as using text and no actions as the basis for teaching or uses translation as a systematic teaching technique. Translation is probably valuable only for clarification when linguistic and semantic elements have been acquired by the individual in both languages. A danger of a similar kind seems to linger in the contemporary stress on contrastive approaches in linguistics. Language consists of linguistic components, semantic components, cognitive components such as the application of logics and problem-solving, a large number of cultural components, such as speech and writing habits, the use of language in specific social settings, and others. None of these aspects must be left out in teaching.

Pertinent to this discussion is the research on the relation between language and cognition in thought, as reviewed on pp. 23-27.

## The S.t Lambert Project

One of the most well-known experiments in bilingual schooling is the S.t Lambert Project. This has been described and reported in a series of papers and books by W.E. Lambert and his coworkers, see for instance Lambert and Tucker (1972). Here, only a very short description will be given together with the latest results available.

According to Lambert, Tucker and d´Anglejan (1973), the experiment comprised three classes. The experimental class consisted of English-speaking children, who were to study with French as a medium of instruction. One control class (English-speaking children) was to follow a conventional English-language school program, the other (French-speaking children) a conventional French-language curriculum. The experiment started in grade 1 and has now been reported on through fifth grade. Another set of three classes was started the following year, with changes in teachers, methods and testing, to test the generalizability and reliability of findings. The first set was called the pilot classes, the second the follow-up classes.

The children were tested to assess their achievement in English, French, mathematics, science and their standard of intellect, creativity and attitudes towards French people and culture.

The authors´ conclusions are as follows (pp. 158-159):

"... the experimentals at grade 5 do as well as the carefully matched controls on all measures of English language skills." "... by grades 4 and 5 the children in the experimental classes have attained a stage of functional bilingualism that permits them to read, write, comprehend and speak French with fluency and naturalness. They are not fully nativelike in their spoken and written French, however ..." "... the experimental children attain a level of performance remarkably similar to that of pupils following the conventional English-Canadian program. Thus, it seems obvious that the children are able to absorb and learn new concepts and procedures through the second language with no apparent difficulty." "... There are no signs of any negative effects on cognitive development ..." "In terms of creativity, the children in the experimental classes consistently perform as well as, and on certain tests better than, the controls." "... their self-views are in general as optimistic and favorable as those of the children in the control classes. The program does not seem to have affected them negatively in any way. They seem as favorably disposed toward English Canada and its traditions as are the English-Canadian controls. What is particularly encouraging is that by Grades 4 and 5 the children´s attitudes toward French people, those from Canada and those form France, appear more positive than is the case for English-Canadian controls."

So far the conclusions of the authors. The general impression is that a carefully handled bilingualism is not harmful, and may in fact create some positive effects. It seems proper, however, to warn the reader to generalize from these results with caution, on the following grounds.

1. Selection of children.
2. Environment.
3. Test results.

As for the first issue, the authors admit that it was not possible to assign children randomly to the experimental and control classes. In fact, children were admitted to the experimental class on a first come, first served basis and there were at least twice as many applicants as available places. Those children who could not be accommodated in the experimental class comprised part of the English control group. In other words, subjects were not assigned to experimental conditions at random. The first parents to volunteer may have been the most active ones and consequently the ones to give their children the best support. Secondly, "additional English control children were selected from a public school reported to be among the best in Montreal." This means, that even if the experimental and control classes may be alike in all relevant respects, they all come from a good social environment and have interested and motivated parents. The results may not have come about in the same way with children from a poor social environment or whose parents are indifferent to their schooling.

The second issue is the bilingual and bicultural environment which is characteristic of Canada and especially of the province of Quebec and the city of Montreal. This is an influence which does not exist in most immigrant countries. Up till August 1974, English and French were both official languages in Quebec. There are many Italians and Greeks in Montreal. A comparison between such children may not have turned out the same way as in the experiment.

The third point is that, in my experience, test measured achievement may seriously deviate from actual, practical ability. In one case, Finnish students, aged 16-18, performed according to the Swedish norms on a grade 4 standard test in Swedish, but two or three judges could notice that this was clearly an overestimation. Their actual proficiency was not on the same level as that of Swedish 10-year children. In other case, immigrant

children performed somewhat better on a Swedish reading test than a group of Swedish children of the same age. This was another instance of overestimation. These examples suggest that the validity of formal language tests is limited and that there are dimensions of language proficiency which cannot (at present) be measured with tests. However, the results are supported by other data, see next section and section: "The adjustment process in immigrant children."

Bilingual education at the grade 8 and 9 levels

At the Congress of Applied Psychology 1974 in Montreal, H.C. Barik and M. Swain of the Ontario Institute for Studies in Education, Toronto, presented data from an experiment, similar to the S.t Lambert project, but with pupils from grades 8 and 9.

In Cohort 1, which started in September 1971, there were 55 pupils participating in the bilingual program and 54 in a control group. This program used French as the medium of instruction to about 70%, mostly in subjects like history and geography, while mathematics was taught in English. The other Cohort started in September 1972, with French as a medium for instruction about 40% of the time for the same kind of subjects. The experiment group consisted of 54 pupils and the control group of 60 pupils.

Analyses of variance and covariance were run, the latter being adjusted for age, IQ and in some cases language aptitude and start-of-year scores (for measurements at the end of the year).

The experimental groups were in most measurements as good as, or better than, the controls. They did as well as the controls in the local examinations in English, maths, science, geography and history. The results thus support the S.t Lambert study and, furthermore, suggest that also a bilingual education at a rather late age level may be successful.

The warnings as to the limited generalizability to other countries with other conditions like those appended to the review of the S.t Lambert project (see p.43 above) are to some extent applicable also in this case too.

Piaget and Vygotski: Bilingual considerations

At the International Congress of Applied Psychology 1974 in

Montreal, B. Bain of Edmonton, Canada, presented a paper on the linguistic theories of Piaget and Vygotsky and gave some empirical results.

According to Piaget, language follows the underlying cognitive, i.e. operative, processes and act as labels for concepts. (This is in agreement with Pavlov's view of language as symbolic representation of the real world; my comment.) According to Vygotsky, on the other hand, language leads the cognitive processes. All cognitive development stems from language. Personality has its roots in language, which is embedded in cultural and social factors.

In one experiment, Bain compared bilingual with unilingual children with respect to their ability to discover a problem and their ability to transfer the solution to other, similar problems.

Table 3. Problem sensitivity and stage of development, according to Piaget. Data from Bain (1974).

| Piaget stage | Language condition | Time for discovery (min) | Level of sign. (p) | Time for transfer (min) | Level of sign. (p) |
|---|---|---|---|---|---|
| Concrete operations | Bilingual | 31.25 | .08 | 28.53 | - |
| | Unilingual | 39.48 | | 29.02 | |
| Preoperational | Bilingual | 26.25 | .05 | 24.01 | - |
| | Unilingual | 37.35 | | 24.16 | |

The children were matched with respect to intelligence and SES. The figures are average time in minutes. As the table shows, on both the preoperational and the operational stages, the bilingual children discover the problem significantly faster, whereas there is no difference in transfer. The bilingual children's superiority in discovering cognitive problems may possibly be taken as supporting Vygotsky's rather than Piaget's views.

In another experiment, Bain compared bilingual and unilingual children with respect to portrait sensitivity. The children were shown classical paintings. Each painting was followed by a multiple-choice question, asking if the portrait expressed love, fear, anger or contempt.

Table 4. Portrait sensitivity and stage of development. Data from Bain (1974).

| Piaget stage | Language | Number of correct responses | Level of significance (p) |
|---|---|---|---|
| Grade 6 (operational) | Bilingual | 10.12 | .01 |
| | Unilingual | 8.64 | |
| Grade 1 (preoperational) | Bilingual | 8.21 | .05 |
| | Unilingual | 7.10 | |

On both stages, bilingual children are superior to unilingual children. These results support those of Loman and his coworkers (cf. p. 63).

In conclusion Bain considers the results to suggest an integration of the views of Vygotsky and Piaget. See, however, discussion on pages 23-27.

## Current experiments in bilingual education

In the vein of Lambert and his coworkers, a large number of bilingual education projects have been launched all over the world. Some of these are coordinated in the International Bilingual-Bicultural Education Project, viz. "Models for the Bilingual Instruction of Immigrant Pupils" at the University of Lund, the International Bilingual-Bicultural Education projects of Hoboken, New Jersey, (McFeely 1974), New Brunswick and New Haven, Connecticut, and the Netherlands (Swedish National Board of Education 1974). Similar projects are underway in many Swedish municipalities (Johannesson 1976 a, b).

One important issue is to what extent teaching should be given in the native language (L 1) or in the second language (L 2).

Another issue is the distribution of language lessons between L 1 and L 2. A third issue is to what extent L 2 learning should be based on L 1. The first two issues will be discussed here and the third issue in section "The relation between L 1 and L 2" (p. 40).

The distribution of language and other lessons in the project "Models for the Bilingual Instruction of Immigrant Pupils" is given in table 5. (Swedish National Board of Education 1973.)

Table 5. Distribution of lessons in a bilingual education project.

| Grade | Nationality of pupils | Swedish | Finnish | Other subjects (Swedish teacher) | Total number of lessons |
|---|---|---|---|---|---|
| 1 | Swedish | 9 | - | 11 | 20 |
| | Finnish | 2 | 7 | 11 | 20 |
| 2 | Swedish | 11 | - | 13 | 24 |
| | Finnish | 3+2 [1)] | 6 | 13 | 24 |
| 3 | Swedish | 9 | - | 21 | 30 |
| | Finnish | 9 | 2 | 19 | 30 |

1) 3 hours of regular teaching and 2 hours of special teaching.

In other projects, subject matter teaching in Finnish or Serbro-Croatian instead of Swedish is given. Such classes have been organized in Botkyrka outside Stockholm. Teaching in Swedish is not started until grade 4. This kind of organization seems to make for a rather abrupt transition from L 1 to L 2 but we shall have to await the results and experiences from such trials before anything definite can be said. In particular, the long-term effects will have to be studied before the possible value of such rather extreme models of teaching can be assessed. Eventually, several models should be tested and compared within a single design. More definite conclusions probably cannot be drawn until several years have elapsed.

Some of the programs of the International Bilingual-Bicultural Project have presented final reports, while others are still going on. So far I have got the Connecticut report (Plante 1976). Connecticut implemented a "pairing" model, introducing an instructional team consisting of a native Spanish-speaking teacher and a native English-speaking teacher. The children with Spanish as their best language were taught their basic skills, i.e. reading, writing, arithmetic, social studies (with an emphasis on the history and culture of Hispanic people), and science in Spanish. The English teacher started teaching with an oral-aural approach and

then introduced reading and writing in English. The English teacher also taught art, music and integrated learning. Children completing kindergarten and the first grades were selected for study. Forty-five pupils were randomly assigned to the experiment group and 27 to the control group, which was taught in English only.

The experiment group did significantly better on the Spanish test, and better, although not significantly so, on the English test. In reading, language and mathematics tests, there are minor differences, mostly in favour of the experimental group, but in two subtests in favour of the controls. These differences are probably not significant (no tests are reported), as data are computed for grades 2 and 3 separately. Thus there are very few cases in each group, a condition aggravated by the heavy loss of children dureing the two-year experiment period: 14 cases were lost in the experimental group and five children were lost in the control group. The tests were standardized achievement tests and the comparisons were made with the primary purpose of relating the data to grade level. Tests of significance would have been valuable nevertheless, as test norms are not always as stable as might be wished. With reservation for chance influences, the grade two children, both experiment and control groups, were behind grade level. The grade three children of the experiment group were about or above grade level in mathematics and language, but not in reading. The controls were below grade level in all tests. The most substantial differences was language, where the experimental children were well above grade level and far ahead of the controls.

On the whole, it would seem as if the experimental children have benefited by the native language approach, at least in some respects. In particular, the good result in "language" is interesting, but the test is not described, unfortunately. In addition to the achievement tests, the children´s behavior and self-concept was rated by the teachers. Although the results were mixed, the author finds a tendency to better results for the children in the experimental group. In such a small program, however, the teachers must have been aware of the design and their judgment may be biased. These data should not be given too much weight.

## The rationale for a heavy emphasis on L 1 in bilingual education questioned

The assumptions underlying the theory of the importance of the native language for the learning of a second, may be summarized as follow. Many authors, such as Toukomaa (1975), Malmberg (1964) have stressed that the learning of a second language is highly dependent on the development of the first language.

1. The first language is learnt in concrete, realistic, and varied settings.
2. Later language learning becomes more and more abstract in nature.
3. The second language is learnt in a more abstract manner and therefore does not reflect the real world as well as the first language does.
4. Because of the first contact between the native language and various external settings, the native words get a special, emotional color.
5. The education in various subjects should be based on concrete concepts and therefore given in the first language.
6. Second language learning should for the reasons given above be based on the native language.

These assumptions are by no means definitely proven to be true. In fact, there are data which suggest that linguistic factors explain only a small part of the total variance in verbal communication and that cognitive factors of other nature play a large role in the communication process, see section "The relation betwee $L_1$ and $L_2$", p. 40. Lenneberg (1967) even denies that the degree of relationship between $L_1$ and $L_2$ has any relevance whatever (p. 364).

The following counter arguments may be cited to balance the abovementioned assumptions.

1. Native language learning is a continuous process. From this point of view, the sooner the switch is made, the better are the prospects of the second language becoming the best, assuming that this is the goal, i.e. if the individual is going to remain in the new culture.
2. If the first language is maintained as such in the new culture, there seems to be a risk that this language will be abstract and barren, as culture is reflected in language to a great extent.
3. The relationship between L 1 and L 2 does not seem as closely associated as has been claimed, see above, pp. 40-42.
4. It may be claimed that language learning, native as well as foreign, is a function of the general cognitive development of the individual and not vice versa.

language teaching - native or foreign - for immigrant children should not be conducted in isolation, but integrated in a broad program of general cognitive, perceptual and psychomotor training, aiming at introducing the immigrant child in the new culture and bringing him to the level of abstract thinking which seems to be characteristic for modern, highly industrialized nations. If the school systems succed in doing this, second language learning could be as concrete and realistic as native language learning is assumed to be.

6. The interest for immigrant classes with much training in the native language and teaching conducted with L 1 as a means of instruction, and only a few hours per week assigned to the new language, may be based upon a desire to use education as a means for minority groups to maintain their autonomy rather than upon a genuine wish to help the children to grow into the new culture. Such attempts to use children politically may be to their disadvantage in the long run. Therefore, it is imperative that research resources be supplied for the testing of many models.

7. Second language learning can be brought about via modern methods without relying too heavily on the first language. In fact, there seems to be a danger pending that contrastive analysis, if used to an excess in teaching, may be as abominable to the pupils as the old translation drills were, not too long ago. That kind of teaching created a dependency on the native language that hindered pupils from freely expressing themselves in the second language.

Some results from studies of early language development may be of interest in this context. Language learning seems to start much earlier than believed. Jenkins (1972) could demonstrate speech sound discrimination with certainty in six-month-olds and some signs of discrimination in two-month-olds. Thus a considerable amount of perceptual learning takes place during the first year of life. Interestingly, some six- and ten-month-olds were able to discriminate between non-native phonemic stimuli.

Many experiments have shown that an early bilingual environment produces effects such as an increased awareness, linguistically, socially and cognitively. As Ianco-Worrall (1972) points out, Leopold, in his intensive follow-up study of his daughter's dual language development, brought attention to the ability of the child to separate the word from its meaning. The girl could freely render a story in two languages from a very early age. Ianco-Worral (op. cit.) tried to test this observation experimentally to see if Leopold's observations can be generalized to other children in somewhat different conditions. She used four tests: choice between phonetically or semantically related words with respect to a stimulus word; to explain names of things; to say whether names of things may be interchanged; and whether the attributes of objects change along with the names when these

are being interchanged in play. The three latter types were also used by Vygotsky.

The subjects were 30 bilingual (Afrikaans-English) children, each of whom was matched, on intelligence, age, sex, school grade and social class, with two unilingual children, one Afrikaans speaking, the other English speaking. On the first test, bilinguals tended to prefer semantic relation in the age category 4-6 as well as in the age category 6-9, while unilinguals did not show this preference until the older category and even then to a weaker extent. On the second test, there were no differences between bilingual and unilingual children in the types of explanations they offered. A significantly greater proportion of bilinguals than of unilinguals agreed that names may be interchanged if you are making up names for things; the tendency was stronger in the older children. There were no differences between bilinguals and unilinguals in the ability to understand that attributes do not change with names.

Thus Leopold´s observations were shown to be possible to generalize. Ianco-Worral (p. 1398) concludes: Bilinguals, brought up in a one-person, one-language home environment, reach a stage in semantic development, as measured by our test, some 2-3 years earlier than their unilingual peers. Ianco-Worral, however, issues a warning against using this finding of increased semantic awareness as a basis for speculation of the specific effects of bilingualism on the cognitive development. Much more research of a very detailed nature, like her own, is needed before more specific assumptions may be made.

Genesee, Tucker and Lambert (1975) compared kindergarten, grade 1 and 2 English-speaking children with three kinds of linguistic experience. The control group consisted of children who attended schools with Englich-speaking teachers and classmates. The partial immersion group attended English schools with English classmates, but were given instruction in French by French teachers. The total immersion group attended French schools with French classmates and were given instruction in French. The children were asked to explain a game to one blindfolded and one not blindfolded listener. The children were equated with respect to verbal and non-verbal intelligence and age.

The only significant difference in the amount of rules was due to age, reflecting the children´s cognitive development. All children gave more information about materials to the blindfolded

than to the sighted listener. There was a significant interaction with linguistic experience so that the immersion pupils gave more information than partial immersion pupils who in turn gave more information than the unilinguals. No age or other effect could be demonstrated. The partial immersion children gave significantly more extra information than the controls and the total immersion children. No age or listeners' condition effects or any other effects could be demonstrated. The authors interpret the results as indicating an increased sensitivity to the communication needs of varying listeners in children eduated in a non-native language.

These studies on early bilingual experience suggest positive social, perceptual and cognitive effects. Together with the evidence cited on pp. 43-49, they do suggest that early bilingual training is feasible and that instruction in school in a second language need not be harmful. The educational implication seems to be that a bilingual-bicultural education can start early and that educational instruction can be given in the second language, although we should pay heed to Ianco-Worral's words of caution. Thus the data seem to support the Lund model (Johannesson 1976, a, b) while data indicating that an almost unilingual native-language approach will be the most efficient bilingual-bicultural education are still missing. In fact, the Montreal data seem to suggest the opposite. The Lund model, as well as other models of the International Bilingual-Bicultural Education project, seem to indicate a balanced, intermediate way between extreme alternatives.

The case of Friesland

In order to take a closer look at the situation in Friesland, I paid a visit to Friesland and met Mr Boelens from "De Fryske Academie" in Leeuwarden and Mrs Rijpma- Boersma in Paterswolde.

The description of the situation is based on the following sources. Personal communications from the persons mentioned above. "Van Memmetael en Moedertaal", by U.J. Rijpma-Boersma (1958), "De Taal van het Schoolkind in Friesland" by Kr. Boelens and J. v. d. Veen (1956), "Project Friesland" by J.M. Wijnstra (1972), "Bilingualism in the Primary Schools of Friesland" by Kr. Boelens (1972). The Swedish Embassy in The Hague contributed with a newspaper article, "Friese taal een vak op school" by Ies Cohen (1972), and Radio Sweden broadcasted a report from Friesland in

1972.

Friesland has a surface about 10% of the Netherlands. It has more than half a million inhabitants, which is about 4% of the total population. All of them understand, talk, read and write Dutch (according to Boelens, 1972). Dutch is the language of the authorities, the schools and the churches, i.e. the official language.

About 70% of the population use Frisian in their homes. Frisian is traditionally the language of the farmers, workers, fishermen and boatsmen.

Dutch and Frisian are closely related. It is therefore easy to learn to read Frisian. It is more difficult to write Frisian than Dutch, as there are a number of rising diphthongs and also tripthongs which do not occur in Dutch. In fact, written Frisian is perhaps closer to English than to Dutch. Therefore only 11% write Frisian well. In Friesland there are about 550 primary schools; 240 have Frisian as a subject on the curriculum. Usually there were two hours a week in grades 5 and 6. In 1972, 87 schools only had Frisian as a subject from grade 3. In 1972 a law was passed which introduced one hour of Frisian as a compulsory subject. One important reason for this is the fear that Frisian should expire as a living language.

The term "bilingual schools", however, is reserved for the primary schools where Frisian is a medium of instruction in the first and second grades.

Before 1955 there were only unilingual schools in Friesland. In 1950, spoken Frisian was introduced as the medium of instruction in some experimental schools. The reason for this was mainly to give the pupils a soft start in school. Later such a long period was found to be unnecessary and now the period is a little more than a year.

In 1955 a number of bilingual schools were started. 75% of the teachers in Friesland speak Frisian. The pupils understand Dutch from the beginning, as they are always surrounded by it even if they speak it badly.

Rijpma-Boersma (1958) made an attempt to evaluate the result of the bilingual training. In 1958 pupils in grade 6 were tested with regard to their achievement in Dutch. Pupils from bilingual Frisian schools, from unilingual Frisian schools and pupils from other schools in similar areas were tested. Her results are summarized in table 6.

would be the introduction of successful teaching methods in the Frisian schools. Meanwhile a crossectional investigation has been carried out in grade three where Frisian children have been compared with rural Dutch speaking children.

We shall have to wait for the results of project Friesland before more definite conclusions can be drawn. So far the situation in Friesland cannot very well be used in the debate on the harmfulness or usefulness of bilingualism.

When this report was about to be printed, a major report from "project Friesland" reached me. The conclusions in the preceeding paragraphs are by and large confirmed. Wijnstra (1976) reports the following findings. Four groups were compared, three of them consisting of children with Frisian as their native langua ge, labelled A, B and C; and one of Dutch-speaking children, labelled U. The three Frisian groups differed with respect to schooling conditions in the following manner.

A. Frisian-medium kindergarten - bilingual elementary school.
B. Frisian-medium kindergarten - Dutch-medium elementary school.
C. Dutch-medium kindergarten - Dutch-medium elementary school.

The children were tested at the end of kindergarten and grades 1, 2 and 3. The groups did not differ in verbal and non-verbal tests of intelligence. The command of Dutch was tested in several ways. In one category of tests, morphological, syntactic and semantic items were measured by means of cloze tests. On most of these linguistic tests, some of which were based on contrastive analysis, significant differences in favor of the Dutch group were found. The degree of explanatory power of the independent variable, expressed as omega squares or correlations, is not stated. The size of the differences is generally substantial, however, but diminishes in grade three.

Tests of the functional command of Dutch, such as listening comprehension and oral production, showed a different type of picture in that no differences between groups were found. A similar picture was found in achievement tests in reading and Dutc language usage. In arithmetic, differences in favor of the Dutch group appeared in grade three. It was also shown that the level of achievement under Frisian schooling conditions, as compared to other studies using the same tests, was about the same as for Dutch schooling conditions in general.

Wijnstra (1976, p. 280) writes; "It is concluded that although Frisian children's oral command of Dutch, as measured with

discrete-point tests, is lower than in comparable Dutch-speaking groups, this does not hinder school achievement and speaking and listening proficiency in Dutch. These findings seem to indicate that new experiments with schooling conditions in Friesland are not necessary."

The case of Torne Valley (Tornedalen)

Tornedalen is a valley divided by a river. The river marks the border line between Sweden and Finland. The whole of Tornedalen is a rather poor area but the Swedish side is somewhat more prosperous. The population consisted traditionally of small scale farmers, who combined farming with forestry. Now there is a more diversified occupational structure. The area is becoming rapidly depopulated, however. It has traditionally been advantageous to build on the Swedish side which, as a consequence, has always been more densely populated. Finland has been a war theatre in both World Wars I and II, and many farms on the Finnish side were burnt down. The railroad on the Swedish side, as well as other communications, must have been attractive. At present, Swedish social welfare is more developed, and there are many ways in which the border population can make use of this.

Attitudes have been, and in many ways still are, very puritan, as in other comparatively isolated, rural areas. A few informal interviews which I conducted revealed that attitudes towards bookish occupations used to be negative. To read and write was considered a luxury. The grandparent generation still holds these views. Manual labour is still considered very important, partly because of its survival value, partly beacuse the possibilities of higher education are still very sparse. Religion used to be very harsh, condemning every luxury. Attitudes towards the other side's language and culture are often negative, in Finland and especially in Sweden. The climate is very servere. The polecircle crosses the valley, and the river sometimes offers a spring flood that blocks the highway. The forests are wide and easy to get lost in. The winter is like a long night, but in June the sun literally never sets.

Slunga (1965) has made an investigation of the attitude of the Swedish government towards the Finnish-speaking population in Tornedalen. Action has been taken to improve education and communication.

Some time around the 12th Century Finland came under

Swedish sovereignty. In 1809 Sweden lost Finland to Russia. The relationship to Russia is one key to the understanding of the Swedish policy in Tornedalen. In 1874 the Swedish government started schools in the Finnish-speaking areas. In 1888 Swedish became the sole medium of tuition. By about 1920 the last traces of Finnish language teaching disappeared. The reason for this policy was fear that the area should become separated from the rest of Sweden because of language and culture. In 1935 a reversal in policy was introduced as the result of an educational reform.

Conflict arose about the building of a railroad. This was to be an important means of connecting Tornedalen with the rest of Sweden, but at the same time it constituted a potential military threat. The solution was to build the railroad and establish a garrison in Boden. In 1911 the railroad reached Övertorneå, a municipality in the south of Tornedalen.

A similar tendency can be traced in Finland. Not only did Finnish nationalists speak of persecution of a minority language group in Sweden. At the same time there was a strong movement against the Swedish language and culture in Finland. This was supported by the Finnish communists. There has always been a close relationship between the Russian and Finnish Communist Parties (see e.g. Leino, 1973) and obviously the Finnish nationalist movement has been a strong Russian interest.

The victims of these divergent political interests have been the children in Tornedalen. Finnish has been the language of the people, also on the Swedish side, but Swedish has been the medium of instruction. Many children, of course, have been more or less bilingual, but for those who have spoken Finnish only, no elementary teaching of Swedish has been available, until recently.

A highly critical sociological study of the conditions in Tornedalen has recently been published in Sweden (Jaakkola, 1973). In this the Swedish government is accused of not being interested in cultural pluralism. But as Boëthius puts it in an interview (Schwarz, 1974, p. 42): "The Swedes have always lived in an abnormally homogeneous cultural situation and have never learnt how to communicate with 'deviant' ethnic groups. Because of this Swedes are, on a psychological plane, unusually highly discriminating towards immigrants." Indeed, the conditions seem to have been detrimental to children in this area. Investigations

by Henrysson et al. (1963, 1967) appear to show this.

As mentioned, the area is characterized by bilingualism. The two languages are extremely different: Swedish, a Germanic language belonging to the Indo-European language family, and Finnish, a Finno-Ugric language, belonging to the Uralian language family. Thus, the situation differs considerably from that of Friesland. The Finnish spoken in Tornedalen is an ancient variety, with many Swedishisms. The Swedish is somewhat dialectal, but there are many Swedish dialects considerably farther from the standard language.

Henrysson and Björkquist (1963) showed that bilingual pupils in northern Sweden performed badly on the standard achievement tests issued by the Swedish National Board of Education. In a later, more thorough study, Henrysson and Ljung (1967) investigated the achievement in Swedish in grade 3 and Swedish and English in grade 6. They compared Swedish speaking to bilingual children, with general intelligence and socio-economic status (SES) controlled.

The SES control was achieved by means of data on the parents' occupation. The children were divided into two groups, roughly along the lines white collar/blue collar occupation of parents. The intelligence control was achieved statistically, by means of analysis of covariance. As measure of intelligence, standard achievement tests in mathematics were used. Linguistic groups were compared within occupational groups.

The following Swedish tests were used: Reading comprehension, word knowledge, reading speed, study technique, disposition, grammar, idiomatic expressions, punctuation, spelling and a compound variable, Swedish total. The following English tests were used: Reading comprehension, listening comprehension, grammar, pronunciation and English total.

In grade 3 significant differences in favour of the Swedish monoglot pupils were obtained in word knowledge, reading speed and expressions. No other differences were significant, but all went in the same direction. A comparison between occupational categories gave 6 out of 10 possible significances, all in favour of white collar occupations, thus revealing the influence of social factors beside the linguistic.

In grade 6, there were significant differences in favour of the Swedish monoglot pupils in all variables. 4 out of 16 differences went in favour of the blue collar group, 12 in

favour of the white collar group, but only 4 of the latter were statistically significant. The social influece is thus considerably less than in grade 3.

There are several comments to be made on this study. As the authors themselves (op. cit.) point out, the measurement of intelligence by means of mathematics tests is questionable. A nonverbal intelligence test would have been preferable. Also, if the same underlying factors affect the mathematics tests as the language tests, which in the light of later research is not unlikely, the covariance method tends to diminish the differences obtained. Thus a test of intelligence might rule out the differences altogether.

The control for SES is not satisfactory. All farmers were classified as blue collar workers, on the grounds that they sometimes had other jobs, e.g. in the forests. But a farmer and forest owner may be a millionaire in terms of the value of his land, and still work for others. I could give several examples of this being the case. Moreover, occupation is not a sufficient index of SES.

No check on the parents' education or attitudes to education and bookish learning was made, though such attitudes are known to be of the utmost importance, and no doubt especially so in this case (cf p. 58). Nor were parents' attitudes to Finnish language and culture studied.

However, the findings of this study support those of MacNamara (1966): Obviously, the contradictory results calls for further research.

It may be argued that the combined language skills in Finnish and Swedish should be measured, rather than the formal achievement in one of the languages. Also the totality of concepts and cognitive skills should be measured, as well as attitudes, to give a full picture, cf. the Canadian experiments, p. 43. Comparing bilingual persons in one language only with unilingual persons is like comparing those who have silver and gold with those who have gold only, by only counting the gold. Most recent experiments suggest that bilingualism per se is not detrimental. Observations in that direction are probably due to confusing bilingual with social and emotional factors. Recent apprehensions of this kind are in most cases put forward by linguists who have not been able to quantify their data, like Hansegård (1972). Their observations are usually made on a few selected cases, without statistical sampling techniques or ex-

Such authors discuss bilingualism as the self-evident cause to the differences observed. This causal relationship cannot be taken for granted, however. SES, parents´ atttitudes and various other cultural factors may be reflected in the results. This would also explain the differences in mathematics achievement. Many studies show that rich stimulation tends to develop intelligence, lack of stimulation to inhibit intellectual development. See e.g. Gordon (1923), Wheeler (1942), Heber et al. (1973). Language development should be no exception. All other factors being equal, bilingualism should be enriching, rather than harmful.

The conditions in Tornedalen have recently been thoroughly penetrated in a large interdisciplinary research project, comprising sociological and linguistic studies of attitudes, and educational, economical, social and linguistic factors (Haavio-Mannila & Suolinna, 1971, and Loman, 1974). The two references mentioned are collections of papers accounting for various studies within this project.

Jakkola in two papers (1971, 1974) finds negative consequences of the bilingualism in this area. She believes that bilinguals proper have a less command of either language, than persons with a better command of and preference for one of the languages. Her data are based on a very short test of synonyms. In spite of the fact that she has access to, and accounts for, a large amount of socio-economic and educational data, she does not use these data to control their influence on the language test. She finds that the Swedish as well as the Finnish spoken in this area are dialectal and out-moded, that there is a functional differention between the two languages and she finally concludes that the linguistic conditions makes social and geographical mobility difficult.

In striking contrast to Jakkola´s conclusions are the findings of Loman (1974), Pinomaa (1974 a, b), Koskinen (1974), Nordin (1974). Loman´s intensive study of an individual case, Pinomaa´s studies of Finnish interference on the Swedish in Tornedalen and of the sentence construction in bilinguals, Koskinen´s study of Swedish interference in the Finnish language of this area, Nordin´s study of the sentence construction in Junior High School students, all lead their authors to the

conclusion that the hypothesis of semilingualism in this area is not supported by their findings. Thus several recent studies contradict the early studies, but the matter cannot be regarded us finally settled. The idea of bilingualism as a basically positive phenomenon gains more and more support, however (cf. pp.43-49 and 53).

The bilingualism in Tornedalen is rapidly changing. The grandparent generation speaks Finnish well, but a poor Swedish. The adult generation speaks Swedish and Finnish equally well. The children speak Swedish better than Finnish. The grandparent generation speaks Swedish with a very strong accent. The adult generation speaks it with a noticeable accent and the children speak Swedish with the typical dialect of Northern Sweden with very little Finnish accent. In a very short time Swedish has replaced Finnish as the first language on the Swedish side of the border. This is part of a general pattern of development. In the days of the grandparent generation, a trader could go to Russia in the East and Norway in the West by reindeer to make business. The East-Western communications have been replaced by North-Southern communications. The homogenous Northern culture is being replaced by four cultures: the Norwegian, the Swedish, the Finnish and the Russian. The possibility that bilingualism in Tornedalen will disappear altogether cannot be excluded.

The effects of length of residence on immigrant children

Wennerström (1967) compared pupils of Swedish and foreign extraction in grade 9 in the comprehensive school in a Swedish county as part of a larger survey of school success, comprising all pupils in grade 9 in that county. 230 pupils of foreign extraction were found. 84% had attended school in Sweden from grade 1 and 38% were born in Sweden. According to a questionnaire on language habits, only 25% could be regarded as bilingual, while the rest preferred Swedish in most situations. 100 of these pupils were matched with Swedich controls on SES, non-verbal intelligence, sex, school grade, and choice of subjects.

There were no significant differences between groups on a verbal test of intelligence, nor in marks in Swedish, nor in average marks in five subjects. In all these comparisons, however, there was a slight tendency for boys of foreign extraction to get lower values than the other pupils.

When bilingual pupils were compared with monoglots of

foreign extraction, it was found that differences in SES produced rather large differences in averages of five subjects, while degree of bilingualism did not. The monoglot girls had significantly better (5%-level) marks in Swedish than bilingual girls, while the difference for boys was not significant, though the tendency was in the same direction. The strength of these differences was demonstrated with correlations, which were .21 for boys and .25 for girls, both significant. Correlations between verbal intelligence and marks in Swedish were close to zero and not significant.

The difference between monoglots and the Swedish controls in verbal intelligence was not significant, while the difference between bilinguals and controls was, and the same relationships were true also for marks in Swedish. The tendency in averages in five subjects was in the same direction, but was not significant.

The general conclusion is that as most of these pupils had ample time for adjustment, their handicap of bilingualism is rather small, especially when compared to the handicap of a low SES.

Toukomaa (1975) also finds that the time for language shift, i.e. the foreign language becoming the better language, on an average is between 4 and 5 years from arrival. This finding must be regarded as tentative, however, as long as the rather strong correlation between age and length of residence is not controlled.

Toukomaa finds that even after the language shift the children´s language achievement is not comparable to that of Swedish children. Even if the pupils are given tuition in Finnish, they fall behind Finnish pupils. Unfortunately, however, he does not use Finnish or Swedish control groups, but instead compares his data with the norms from the groups on which the tests were standardized. This procedure is questionable on several grounds. In the first place, norms are not to be taken for granted, as they may change or may not be exactly representative for the individuals tested. Also, there are inevitable differences when groups which are not perfectly equivalent are tested, as most cross validation studies show. Secondly, if the norm groups are truly representative for their populations, all social classes are represented according to their true proportions. But practically all Toukomaa´s child-

ren belong to the working class solely and such children characteristically get lower results, as shown by a great number of studies (see e.g. Darcy, 1953, 1960, Jones, 1966). They cannot simply be compared with norm groups, but should be compared with samples from the same occupational groups. Toukomaa´s results may well be due to SES differences. His data must be subjected to further analyses before the results can be regarded as reasonably safe. They are commented on because of the attention his papers have evoked so far and because his preliminary results, criticised here, are being spread without necessary reservations (Skutnabb-Kangas, 1975 & Skutnabb-Kangas & Toukomaa, 1976).

Ekstrand presented data on the effects of length of residence for large groups of immigrant children at the AILA World Congress in Stuttgart 1975. The results on various language tests, perceptive as well as productive, showed very little relationship with length of stay. When two groups, one with very short stay, the other with long stady, were contrasted, only a few significant differences were obtained. The omega$^2$ values showed that length of residence explained too little of the variance to allow interpretation of more than one of the significant differences. This single variable was Free Oral Production, where length of stay explained 22% of the variance, which is equivalent to a correlation of .47 between Free Oral Production and length of stay. This result seems reasonable. Most other language variables may depend on intelligence, amount and quality of instruction and numerous other variables which may be unrelated to length of residence, while oral production may well be dependent on the continuous interaction with people, speaking the new language. Age, on the other hand, gave significant differences with acceptable omega squares in all variables except Free Oral Production, which is an interesting result. In this study, age and length of residence were uncorrelated, hence there was no need to control these variables statistically.

## General conclusions and educational implications

The educational implications seem to be the following. Teachers, psychologists, counsellors and other professionals should be well acquainted with the background of their pupils, in all respects mentioned above. In the case of migrant children, other

important variables, such as amount of formal education in the native country, length of residence in the new country and others, should be added. Possibly well-constructed questionnaires or check lists might be useful in this context. Knowledge of these things is particularly important when the referring of a pupil to special class, psychiatric treatment or other kinds of specialized treatment are being considered.

When intelligence testing is being considered, at least the following points should be observed. Verbal tests should never be used as the major instrument. A non-verbal test, or preferably more than one test should be carefully selected. Not all non-language tests are suitable. Some of them contain cultural elements, obscuring the result. The tests used should be non-verbal and as culture-free as possible. Even so, there is a possible bias due to the very fact that the test used in most cases will be a test, standardized on a population of another language and culture than the subjects tested. The following recommendation, though it may sound a bit strained, is probably valid on the whole. No test results should be taken too literally. A result, indicating average or above average intelligence, may only be interpreted as the subject not being retarded. The result does not imply the degree of talent. A result, indicating a sub-average intelligence, cannot be interpreted at all, as the result may be due to a number of causes.

In testing, the usual time limits should be changed, with bilinguals, migrant children and other minority groups. Time limits, which are normally regarded as administrative only, may affect results considerably. Some pupils have no experience of formal testing, which may affect the result. Some of the studies reviewed show that the order of tests or the repetition of tests give significant changes in test results. The test instruction should be very clear and should preferrably be given non-verbally. The nationality, sex and status of the test administrator may affect the results, even in groups tests, as indicated by at least one study.

In general, there is a lack of diagnostic instruments of all kinds, as well as of procedures and routines. This calls for research and development, far too rare at present.

For many reasons, L 1 as well as L 2 should be learnt by the students simultaneously. The emphasis, however, should be laid on L 2, on the following grounds. The association bet-

ween L 1 and L 2 is not very strong, i.e. linguistic factors seem to explain a minor part of the total variance in verbal communication. Furthermore, L 2 is the major means of communication, in school, between mates and in society in general. The emphasis on L 2 becomes all the more important when one considers the fact that the majority, or about 65 per cent, of the European immigrants remain permanently in their new country. Methods of L 2 teaching should aim at productive proficiency in the new language, brought about in concrete and realistic settings. The danger of making the teaching too literary, abstract or contrastive should be avoided.

In addition, cognitive, perceptual and psycho-motor skills should be developed in the students along with L 1 and L 2 learning. Programs for such training should be developed according to the degree of cultural differences between the native country and the new country. The kind of program needed in the individual case should be decided on the basis of diagnostic routines, as mentioned above.

The acquisition of a new language and new ways of thinking and perceiving is slow and will take more time than the deterioration of L 1. Therefore, L 1 should not be allowed to deteriorate and not even left at status quo, but in fact be developed in the pupils.

A bicultural education at its best might be an enriching situation for immigrant children, making for a richer life as adults than would have been the cuse in a monocultural environment. Much research and development is needed before such an ideal situation can be reached, however. It must be realized that monolingual education is far from perfect and that bicultural education is an even more difficult task which must, however, be seen as a challenge.

## PERSONALITY, EMOTION AND MENTAL HEALTH

### The forming of prejudice and unfavorable attitudes

As Allport (1958) points out, there are at least a dozen classes of groups, against which prejudice is known to exist: race, sex, age levels, ethnic groups, linguistic groups, regional, religious, national groups, ideologies, members of castes, social classes, occupations, educational levels, interest groups

(labour unions, professional societies, etc.). This is probably not an exhaustive list.

Now, a migrant is likely to differ from his new social environment in many of these respects. He is by definition from another region and often from another nation. He differs linguistically, in dialect or language. He is likely to differ in a number of other aspects as well. And, as Allport (1958, p. 30) puts it, "In every society on earth, the child is regarded as a member of his parents' groups." The migrant and his child in the language of social psychology, belong to what is called "an outgroup". The principle of least effort makes us think in categories. They help us to identify a new object or person and to predict a certain kind of behavior and other characteristics. The categories assemble as much information as possible, including values. But persons differ in their comprehension of a given category. Badly informed people tend to have ideas about a category which simply are not true, and so to form false opinions about the value of a category. For example, the category "Jew" is strongly positively laden to some people and as strongly negatively laden to other people.

It is of utmost importance to establish the fact that ignorance is at the core of prejudice. This is not only of theoretical importance, but has also many practical consequences, one of them being that information is a powerful weapon against prejudice.

Categories help to sort people into in-groups and out-groups. Hostility and rejection may or may not be developed concerning people who are regarded as out-group members.

Allport points out that categories are necessary, and cites Bertrand Russell: "A mind perpetually open will be a mind perpetually vacant." According to Allport, categorization has five important characteristics:

1) It forms large clusters and classes for guiding our daily adjustments.
2) It assimilates as much as it can to the cluster.
3) The category enables us to quickly identify a related object.
4) The category saturates all that it contains with the same ideational and emotional flavor.
5) Categories may be more or less rational.

Allport (1958) cites various definitions of the word "pre-

judice", one being "thinking ill of others without sufficient warrant". The New English Dictionary says: "A feeling, favorable or unfavorable, toward a person or thing, prior to, or not based on, actual experience." Prejudice may be positive or negative, though ethnic prejudice is almost invariably negative (Allport, 1958). It is also obvious that all positive or negative attitudes or concepts cannot be classified as prejudice, if they are based on actual experience or otherwise have sufficient warrant. "Actual experience" is also an ambiguous term. If a person has met a Greek once or twice in his lifetime, but has studied Greek literature and culture, and seen motion pictures, slides and TV programs, has he then "actual experience"? Ruth Benedict wrote a book recognised for its remarkable insights in Japanese psychological processes without ever having been to Japan (Hall, 1959).

Trankell (1974) defines "prejudice" as "a working hypothesis about ethnic groups, not possible to influence or change with rational arguments, hence we can use the term unreasonable antipathy" (p. 128).

Most researchers after World War II, however, seems to prefer the concept of "stereotype" to "prejudice" as well as to "attitude". The concept of "prejudice" is too ambigouous, as well as biased in itself. As Trankell (1974) puts it: There is prejudice against individuals with prejudice.

## Ethnic stereotypes

The concept of "ethnic stereotype" has changed profoundly since it was first coined by Lippman (1922), who defined it as "a picture in the head". According to Lippman a stereotype is factually incorrect, produced through illogical reasoning, and rigid. Allport (1958) gives credit to Lippman for his descriptive work, but critizises the theoretical reasoning. According to Allport, one must distinguish between category, e.g. ethnic group, and stereotype, which is a more or less "fixed idea" that accompanies the category (1958).

Furthermore, Allport claims that a stereotype need not be altogether false. A stereotype may or may not differ very much from a valid generalization.

Most modern writers agree that stereotypes perform a function for the holder. Allport holds his view, although as modern a writer such as Brigham (1971) mentions the holder of

a stereotype as "the prejudiced person".

Allport seems to claim that a category is a cluster of individuals with a label, determined by objective criteria. But there is no general agreement on the definitions of these concepts among different authors. This is thoroughly discussed by Brigham (1971). My own view is as follows.

Let us discuss the category "Negro". A stereotype is a cluster of opinions about this category of traits. Some opinions may be rational, such as "a Negro has dark skin". Though this is not always true, there is a high probability that it will be true in most individual cases. Some opinions may be irrational, such as "a Negro is superstitious". Some opinions may be exaggerated, in a favourable or an unfavourable direction. There are often emotions and values attached to the opinion. Herein lies a difference between a concept and a stereotype. A concept is a cluster of objective traits. A stereotype is a subjective picture, i.e. a more individual, emotional and value-laden picture than a concept. A concept is thus shared by more individuals.

Someone said in a discussion at the International Congress of Applied psychology (Montreal, August 1974) that stereotypes are necessary like categories are and it is important to "load" the stereotypes with as much correct information as possible. The speaker may have been Harry Triandis who has carried out research along these lines (1974). This view is quite opposite to that of Brown (1958) or Campbell(1967), who discuss the undesirability of stereotypes. They focus on the stereotyper: his ethnocentrism, naiveté and unrecognized hostility. To concentrate only on the negative sides of stereotypes, however, is to mix morals into science.

There is also a controversy about the "kernel of truth". Can a stereotype continue to exist without any kernel of truth? The debate on this is extensive and technical and cannot be reviewed here. The conclusion which can be based on the evidence available is that stereotypes often have some "kernel of truth". It cannot be proved that all stereotypes have some validity.

Gardner, Kirby and Finlay (1973) have investigated degree and significance of consensus in ethnic stereotypes. Subjects were to ascribe sets of attributes to 10 different ethnic groups. The 12 attributes or stereotype items for each group were ordered in terms of consensus. The results indicate that the degree of consensus in the stereotype has considerable information va-

lue to the individual, suggesting that, in general, stereotypes develop from information available to a community and that the consensus noted in stereotype assessment procedures reflects the consistency of this information.

Authors have generally agreed that attitudes play an important functional role for those who entertain them (Pearl 1954). In particular, negatively-laden stereotypes, i.e. prejudicial or ethnocentric attitudes have been studied. There has been a certain uncertainty as to whether attitudes change when an individual's self-concept is altered or if the attitudes are so firmly anchored in the social and cultural framework as to be resistant to such changes. Pearl (1954) found some evidence that attitudes do change as measurements of self concepts change when studying 12 hospitalized neurotic patients during psychtherapy.

Other studies (Gardner, Taylor and Feenstra, 1970) indicate that the holding of a stereotype is rather independent of the individual's attitudes. Though it may in part reflect the community's intergroup attitudes, the holding of a stereotype is primarily a belief held by the individual in common with other members of the community.

Van der Spuy (1974) and Van der Spuy et al (1974) have compared neuroticism in South Africa with that of other nationalities in four different studies, using different assessment techniques and different samples of subjects. The scores of white and non-white South Africans were on the whole in agreement, but all South African samples obtained vastly higher neuroticism scores than all the other national groups. The authors consider themselves, after serious consideration and various checks,forced to rule out all explanations except the following. They argue that the legally enforced race discrimination might be as harmful to those who discriminate as it is to those they discriminate against and that the basis of this is the fear which underlies the South African system and affects all its peoples.

Trankell (1974) studied the attitudes and concepts about immigrants in Sweden in a representative sample of the total population. The items of a questionnaire were grouped under the headings Fear (7 items concerning the socio-economic consequences of immigration), Dislike (7 items concerning the desirability of assimilation), Generosity (4 items concerning rights

and supporting action for immigrants). These 18 items were chosen, on semantic grounds, from 32 statements concerning immigrants, 18 of which were negatively worded and 14 were positively worded. Afterwards it was statistically checked if these groupings could act as scales. After a few alterations, 14 negatively worded and 4 positively worded statements remained as "scales". Furthermore, 6 statements concerning facts about immigrants were grouped under the heading "Knowledge" and 4 questions concerning interaction with immigrants were grouped under the heading "Involvement".

These item groups were then compared with 9 background variables like sex, age, education, income, social class and a few more. Coefficients of contingency between .29 and .14 were obtained between Fear and Education, Experience of travelling abroad, Social class, Age, Experience of immigrants and income (in this order). C coefficients between .26 and .12 were obtained between Dislike and Education, Age, Experience of travelling abroad, Experience of Immigrants, Social class and Income. C coefficients between .19 and .10 were obtained between Generosity and Education, Experience of immigrants, Having relatives among immigrants and Income. C coefficients between .23 and .10 were obtained between Involvement and eight back-ground variables. C coefficients between .21 and .09 were obtained between Knowledge and seven background variables. The direction of the association was such that individuals with higher education, social class, experience of immigrants and of travelling abroad and income, and of lower age, have more positive and fewer negative attitudes towards immigrants.

Trankell (1974) concludes that education and degree of security, selfconfidence, boldness and activity determine attitudes, as individuals with these qualities do not risk anything in their confrontations with immigrants. Though other interpretations concerning what is cause and effect are possible, the main results seem stable enough and are consistent with earlier findings, see e.g. Allport (1958).

Childrens´ stereotypes

Zeligs (1953) studied childrens´ stereotypes of ten ethnic groups. She compared results from a large group of children (N=200) in 1931 with a similar group of 12-year-old children in 1944. She concluded that the less children know about races or nationalities, the fewer favorable concepts they have about them. For

one or two of the groups there were substantial changes, in favor of these groups (Chinese and French-Canadian), while there were no changes in the percentage of favorable answers for the other groups. The concepts were similar from one occasion to the other. This study, then, seems to be consistent with results from studies with adults, suggesting that education and actual experience of foreign individuals and cultures makes for more positive attitudes towards such groups.

Springer (1953) studied grade five children's preferences for classmates of a variety of nations and races in schools in Hawaii, by the method of paired comparisons. In particular, she compared the white and yellow races, and within the later race the Japanese and Chinese nationalities. Her findings were as follows.

1. Both races preferred their own race whenever there was a choise.
2. Oriental children showed a greater self-preference than did the white.
3. There were no sex differences in the degree of self-preference.
4. Self-preference was stronger within the own sex.
5. Oriental children showed a greater degree of self-preference towards the other race than towards the other nation of their own race.
6. Members of a relatively large national groups show a greater degree of self-preference than did members of small national groups.
7. Part-Hawaiian children differ markedly in their choices from the other groups. They do not show a great deal of self-preference, nor do they consistently prefer any of the white or Oriental races. Whether this trend is due to the minority status of these children or to their mixed racial background is not clear.
8. Children representing mixed national-racial backgrounds and minority nationalities tend to favor Orientals over whites. They are neither favored nor rejected over Orientals by whites, whereas they are favored over whites by Orientals but rejected in favor of Orientals by these children.

Frenkel-Brunswik and Havel (1953) interviewed 81 white, non-Jewish American children, 10-15 years of age, about their

attitudes to five minority groups in California: Negroes, Mexicans, Chinese, Japanese and Jews. Of the children 27 were high-scorers in prejudice on a scale designed to measure ethnocentrism, while 18 were middle scorers and 36 were lowscorers.

There was a high degree of agreement between test results and interviews, as shown by a correlation coefficient of .67. Another measure of the consistency from one instrument to another is the intercorrelations between ratings of prejudice towards the different minority groups, ranging from .69-.97, and the intercorrelations between corresponding subscores on the ethnocentrism scale, ranging from .54-.74.

A negative interview statement was regarded as revealing prejudice when there was no attempt at rational explanation, or when qualifications tried to justify the self rather than to understand the minority.

96% of the high-scoring, 83% of the middle-scoring, and 22% of the low-scoring children made prejudiced statements about Negroes. Similar results were obtained for the other four minority groups.

No child spontaneously listed all the traits obtained and which may be said to constitute a stereotype. Not one of the characteristics listed is mentioned by more than a minority.

The stereotype of "Negro" is the most pronounced, in terms of number of negative terms. The stereotype of "Mexican" is somewhat less pronounced, and still less in the stereotype of "Japanese". The Chinese stereotype is rather positive. The stereotype of "Jew" is different from the others. Differences between Jews and non-Jewish whites are denied, and negative attitudes are often expressed as a depreciation of characteristics, which are normally regarded as virtues, such as economical success, expressiveness, etc.

The low-scorers generally express the same stereotypes as the high-scorers, but to a lesser degree. There is a difference in that low scorers tend to see minority groups in relation to the majority as discriminated against, submerged, deprived and frustrated by the majority group. The high scorers tend to see the minority group as a possible threat and danger.

Correlations between childrens' and parents' prejudice vary between .2 and .6, suggesting parental influences on the childrens' attitudes.

## Some findings of cross-cultural psychiatry

Al-Issa (1974) has reviewed studies of cultural and social variations in the definition of, and the sensory systems involved in, hallucinations. American psychiatrists seem to be less aware than their British colleagues of the difference between schizophrenic hallucinations, pseudo-hallucinations and other kinds of imagery, as well as of the occurrence of hallucinations in other disturbances than schizophrenia, e.g. depression, hysterical states. These differences probably reflect not only differences in training but also in social beliefs about hallucinatory experiences.

Many non-Western societies make no distinction between schizophrenic or pseudo-hallucinations and dreams and other fantasies. These states are regarded as possession by spirits or contact with spirits and are socially encouraged in certain contexts. An example of a pathology due to a specific cultural view is the hunter who sees game everywhere as a result of a taboo against a hunter eating his kill.

Imagery differs cross-culturally in content because it is based on the individual's past experience in a certain culture. The senses involved also vary; non-Western patients have visual, olfactory and tactile hallucinations more often than Western patients who tend to have auditory and other more distant and abstract experiences. This tendency is paralleled in delusions. European delusions are often experienced as coming from a distance via telepathy, electricity or hypnotism while African delusions are perceived as coming from direct influence like being poisoned or bewitched.

Hallucinations seem to reflect lower levels of social competence as defined by level of education, steady employment and marital status. As low social competence is one factor in diagnosis, this may in part explain the higher rate of schizophrenia in the lower class.

## Migration and mental health

It is often claimed that migrants have poorer mental health than natives; cf. e.g. Lasry and Sigal (1974), Roskies et al. (1974), Haavio-Mannila & Stenius (1974). It is uncertain why this should be so; the migrants are often skilled workers with a steady employment and do not have particularly low incomes. Migrants as a rule are people who can change residence and

have the ambition to do so. This is probably equally valid for political as well as for economical migrants.

One way of studying the rate of mental illness is to look at the admission rate to hospitals. A number of studies show that this rate is higher for migrants than for natives (Roskies et al, 1974, Lasry and Sigal, 1974). But there are also a number of studies presenting opposite results, viz. natives having a higher rate of hospitalization than immigrants (Lasry and Sigal, 1974). Evidence according to this method thus is contradictory, which might suggest that other factors than actual migration lie behind admission rates observed. This is not the place to investigate this problem, but some of these possible factors may be mentioned. In the first place, migration is usually intended to improve the SES of an individual and his family. This end is probably gained more often than not, which may mean that migrants turn to hospitals to a higher extent than they normally would have done, feeling that at last they can afford to. Another factor is the difficulty of diagnosis. It is well known that British and American psychiatrists have different definitions of various psychoses and other mental abnormalities (Al-Issa, 1974), hence significant differences in rates of mental illnesses in British and American hospitals. Further, it is also well known that hallucinations, delusions and other abnormal mental states of the mind are looked upon differently in the populations in different cultures (Al-Issa, 1974). In some cultures such states of the mind may be talked about and even encouraged, while the same phenomena in so-called rational cultures are regarded as undesirable. It may well be that a migrant, who in the first place behaves atypically relative the cultural behavior pattern, in the second place confesses experiences which are normally repressed and denied and in the third place is confronted with a different psychiatric tradition, is more easily hospitalized than he would be in his native country.

Another method is to ascertain the mental health by surveys, using checklists or questionnaires. Again results are contradictory. A number of studies, cited by Lasry and Sigal (1974), have found a drastically increased number of symptoms after migration, while other studies (Kleiner & Parker, 1965, Parker, Kleiner & Needelman, 1969) have found opposite results. One of the factors that may lie behind the contradictory results is the self-

fulfilling prophecy. At least in Sweden, it is customary to argue that immigrants are in difficult position in a variety of ways: they have the worst jobs, they are isolated, they are met with prejudice and negative attitudes, etc. Some of the books and articles in the debate are written by persons who themselves are immigrants, while others are produced by natives. If the situation is similar in other countries, it is no wonder if questionnaire- and checklist-type of surveys give higher rates of symptoms for immigrants, as they cannot avoid being influenced by the debate, which is maintained and spread by mass-media.

While there certainly are difficulties in the situation of a migrant, it should also be remembered that there are positive sides to it as well. As no one is helped by incorrect data, the influence from a one-sided and often exaggersted debate should be controlled in research, although this is not an easy task. In some cases high mental illness rates among migrants seem to be the result of faulty research techniques. E.g., Johansson (1973) has compared 60 Finnish-speaking immigrants with 60 Swedes and 35 Swedish-speaking immigrants with 35 Swedes. While these groups are clearly to small to be of any value as representative samples, which they also are not shown to be, they are matched on only 3 variables wich is unsatisfactory. There are greater differences between the two Swedish groups than between Swedish-speaking immigrants and the Swedish "control group". No conclusions can be drawn from such a study.

Haavio-Mannila carried out a comparative study, cited in Haavio-Mannila & Stenius (1974), in which she studied symptoms of anxiety on groups of Finnish-speaking immigrants in a Swedish city (N=75), Swedish-speaking immigrants (N=19) and Swedish natives (N=54). The rate among Finnish-speaking migrants was somewhat higher than for the Swedes (56% psychic and/or somatic symptoms against 48%), but slightly lower than for the Swedish-speaking immigrants from Finland. She also compared rates of anxiety for the immigrants in Sweden with rates for Finnish natives on another instrument. Swedish-speaking immigrants had a lower rate (3,5) than Swedes (3,7) but Finnish-speaking immigrants had a rate of 4,0. Non-migrants in Finland had the highest rate (4,7) and internal migrants in Finland the second highest rate (4,2). These results are somewhat inconsistent and illustrates what can happen when groups are small. No tests

of significance are reported. Differences are so small that they may well be a result of chance factors.

The study has one point of great interest, though. If it is true that the mental health is worse in a country of origin than in a host country, then this is a factor which may explain high admittance rates without being related to the process of migration as such. This is one of the few studies which tries to take the state of mental health in the country of origin into account.

Haavio-Mannila & Stenius go on to report on the admission rate for the Psychiatric Clinic in the City of Västerås in Sweden. The admission rate per 100,000 persons is 110 for immigrants, 193 if patients seeking abortion are included. The corresponding figure for Swedes is 312, abortion seeking patients included. Immigrants thus have a considerably lower admission rate than natives. As the authors believe that migrants have more mental illness, they conclude that immigrants are under-represented among admission seeking patients. As the assumption of more mental illness is by no means proven beyond resonable doubt, the logic of the idea of under-representation is questionable.

Murphy (1965) has summarized the results of the hospital admission research so far. He lists a number of background factors shown to influence the risk of mental hospitalisation, viz. age, sex, marital status, social class, occupation, education, income, geographic location and residence, culture, religion, race, type of household, family and membership groups. Many of these has also been studied in relation to mental hospitalisation of migrants. A few results will be briefly mentioned. He gives some figures from a study by Lazarus et al (1963) according to which native-born male migrants have higher admission rates than immigrants in New York, Ohio and California. Immigrant rates are even somewhat lower than non-migrant rates, except in New York. The same tendency also holds for schizophrenia studied separately, again with the exception for New York, where foreign-born migrants have even a slightly higher rate than native-born migrants. For females, the picture is different. Admission rates are higher for foreign-born migrants in Ohio and California than for native migrants and non-migrants. The same is true also for schizophrenia. New York is an exception in both cases in that native migrants ha-

ve a higher rate.

Ødegaard's studies showed that Norwegian immigrants to the USA had higher admission rates than the Norwegian general population. On the other hand, Swedish and Danish immigrants to Norway had lower rates in the countryside, except in Oslo, where the rates again exceeded those of the native population. Thus, there seems to be a difference between immigration and migration to the cities and to the countryside. Such differences are further explored and discussed by Parker, Kleiner and Needelman (1969), see further pages 7-9.

Migration as a stress factor

Stress is a technical term for at state that wears on certain organs of the body, together called the adaptive system of the body. Most directly involved in the defense against stress factors, or stressors, like poison, drugs, physical damage and psychological strain, are the following organs: the suprarenal glands, the stomach, the lymphatic vessels and the thymus. Many other organs are also involved. One of the early experiments of the Nestor of stress research, Hans Selye (1958), gives a good picture of what happens in the body under conditions of stress.

Selye put a cage of rats in the harsh Canadian cold on a roof outside his laboratory. After a number of days, the rats died. Dissection showed enlarged suprarenal glands with fatty beads, and gastric ulcers. A hormone, ACTH, had been fired from the hypophysis and stimulated the suprarenal glands to produce adrenaline, which normally is dissolved in fat substance. Hence the fatty beads, formed when the adrenaline was freed. The adrenaline stimulated other organs, such as the stomach, the heart and others. The organs had all acted above normal level to withstand the cold and eventually had broke down under the strain. This sequence is called the General Adaption Syndrome or the GAS.

Selye could show that if rats were trained in moderate cold for a time, they were able to withstand very low temperatures much longer than untrained rats. Eventually also trained rats died, if exposed to cold sufficiently long. After some initial troubles, marked by e.g. gastric ulcers, the organs adjusted to high level activity, but sooner or later had to pay the price in form of a break-down of tissues. There are three distrinct pha-

ses of this sequence, called the alarm phase, the resistence phase and the break-down phase (Selye, 1958).

The same things happen when the stressor is psychic. Too much work, uneven hours of work, sleep and food, etc. may procedure the same symptoms, which would then be called psychosomatic. Now, many researchers have wondered whether migration or other kinds of mobility or drastic changes may act as psychic stressors.

Wyler, Masuda and Holmes (1971) showed that there were strong correlations between magnitude of life events (i.e. number of events, concentrated to a limited period of time rather than single events) and seriousness of illness. The rank correlation between magnitude of life events during the 6, 12 and 24 month prior to onset of illness was .65 with chronic illnesses for all time periods, while correlation with acute illness was zero. Though the authors knew which patients were first-, second- and third-generation Americans, they did not break down the sample into these categories. Their list of illness included physical as well as mental illness.

Myers, Lindenthal & Pepper (1971) found a Pearson correlation of -.34 between number of life events and mental status, i.e. degree of psychiatric impairment. This means that the more events, the higher degree of psychiatric impairment. Life events are any events, positive or negative. Positive experiences affect the body much the same way as negative and too many positive experiences may lead to states of overstimulation, restlessness, fatigue or boredom. The degree of control over events an individual can achieve seems to be an important factor. As Myers et al (1971) put it: "Thus, there is a strong association between catastrophic events over which the individual has little control and the degree of psychological impairment."

Paykel, Myers, Dienelt, Klerman, Lindenthal & Pepper (1969) studied life events and depression in 185 patients and a matched control group from the general population. Depressed patients had experienced about three times as many life events per patient as the controls during the six months prior to onset of illness, or 1,69 events per patient as compared to ,59 events per patient for the controls. Out of a list of 33 events, only 8 discriminated significantly as individual events. Moving was not among these.

Cleary (1974) has reviewed methodology and some of the findings of the life event research. Items of life events are now being turned into psychometric scales, i.e. the seriousness of each event is determined by means of rating procedures. The total score is called a scale of Life Change Units (LCU). Correlations between LCU scores and a number of illnesses are typically very low, often between .10-.20. Such correlations are of little practical or theoretical importances. However, a number of studies have found higher correlations, in a few cases as high as .40 or even .50. In a cross-validation study, i.e. the study repeated on a new sample, an original correlation of .42 sunk to .19 at repetition. Results thus are inconsistent, but new techniques are being developed, e.g. scores, weighted individually for different patients.

Roskies et al. (1974) used a LCU scale, the values of which had been proved to be stable cross-culturally, to study an immigrant population in Montreal. She studied a sample of 303 individuals between the ages of 20 and 60 years out of the Portuguese population of about 13,000 individuals. In the first place she found no higher rate of illness in this immigrant population than could be expected in any population, according to other population studies. She further found that the correlation between LCU and physical illness was low (rho=.18). When correlations were computed for sexes separately, it was found that rho increased to .24 for women, but disappeared for men (rho=-.06). For men in the highest educational group rho=-.57 and for men in the age group 35-45 rho=-.24. These are rather surprising findings, implying that immigrant women are more sickness prone than immigrant men and that immigrant men in the most active age or with the higest education are affected positively by change and negatively by lack of change. According to Roskies et al (1974) the first finding is consistent with a number of reports of greater symptomatology in females. Roskie's paper seems to show that females only react to change per se as a stressor. The other finding is consistent with psychiatric reports of the 40-year neurosis of men with an unchanging life situation (Blomquist, 1970).

If Roskie's findings are confirmed by other similar studies, they are very important. They suggest that the health of the mothers is negatively affected. In the case of families, this may affect the adjustment of children in various ways. It is

known that the mother's intelligence means very much for the intelligence development of the child, while the father's intelligence is of less importance (Heber et al., 1972). Similarly, the mother's physical and mental health may mean very much to the emotional development of the child. It may well be that immigration affects children more by changes in the family situation than by other forms of change, brought about by migration. This will be further discussed in the section on mental health of children.

Dohrenwend & Dohrenwend (1966) studied birth order and stress reactions. Research on birth order and reactions to anxiety-provoking situations had so far been somewhat inconsistent. Taking the work of Schachter as a point of departure, Dohrenwend and Dohrenwend tried to solve this problem. They predicted that if social isolation is forced on individuals exposed to anxiety-arousing conditions, first born will show more symptoms of distress, while later born will show more symptoms if social interaction is enforced on individuals in anxiety-provoking circumstances. If the choice of social situation is free, each category of individuals will seek the optimal conditions and there will be no difference in the rate of symptoms.

The first hypothesis was tested by means of a sensory deprivation study, i.e. subjects were prevented from experiencing light, sounds, etc. during eight hours. There was a significant tendency for first-born children to experience more symptoms during sensory deprivation than they used to prior to the experiment. The hypothesis thus was confirmed.

The second hypothesis was tested in a survey of inhabitants in a crowded slum area where privacy, due to number of family members, size of habitation, etc. was hard to attain. It was assumed that anxiety-arousing conditions are common in daily urban living, an assumption which is confirmed in other research (cf p.7-10). The results showed a significant tendency for later-born children to report more symptoms. This tendency was not found outside slum dwellings. Also the second hypothesis seems to be confirmed.

Thus, it seems that anxiety-arousing situations are specific to first- and later-born children, suggesting that the contemporary social situation plays a greater role than basic personality traits. This conclusion needs further proof, how-

ever. The findings of Dohrenwend and Dohrenwend (1966) may in any case explain some of the inconsistent results reported.

## Children and mental health: age and race effects

Lapouse and Monk (1963) studied variations in the occurrence of behavior deviations with sex, age, SES, race and having/not having brothers and sisters. 484 children aged 6-12, randomly sampled from Buffalo, were investigated, by means of interviews with their mothers. Deviant behavior was reported mostly in younger children and thus decreased with age. Boys were reported to have more deviations than girls, and Negro children more than white children. It may have been SES rather than race, however, which accounted most for the latter differences. The items, however, are chosen so that they in part reflect physical maturation, in part conformity to the social norms of a specific cultural setting. Some of the behavior patterns, regarded as deviant in 1955, would not be so nowadays in the USA. In other cultural contexts, they would not have been considered deviant even at the time. As it is doubtful that this investigation reflects mental health in a deeper sense, i.e. presence or absence of stress and conflict, ability to resist or recover from such conditions, etc. the results seem rather trivial.

## Children and mental health: effects of mobility

Kantor (1965) has reviewed studies concerning the adjustment of migrant children. The majority of studies on immigration or wartime displacement seem to show very little pathology for children who remain in their families. Disturbances are more frequent if children are removed from the family.

Social adjustment suffers both from a child being completely stationary or being moved around too much. One or two moves seem to lead to greater social acceptance.

The degree of urbanization of areas of reception and origin, which seems to be of importance in adult migration, has been investigated for migrating children (Kantor, 1965). Children with continuous city residence, countryside-to-city and city-to-city migration were compared. The three groups did not differ markedly with respect to social relations, school relations, parent-child relations or personality characteristics.

Scholastic achievement does not seem to suffer from migration per se, as shown by studies of native-born migrant children,

where language problems cannot play a part. In fact, one study shows that "transient" children are significantly ahead of "nontransient" (in Kantor's terminology) in mean achievement. The gain is affected by intelligence and the occupation of the parents, in that the gain is greater in children of higher intelligence or children whose parents have better occupations.

Parents' attitudes towards moving were studied in normal and emotionally disturbed children of military personnel who comprise a highly mobile group. Both groups showed a high incidence of mobility following birth of the children included. The only significant difference between the two groups was in respect to fathers' and mothers' acceptance of mobility and the military role, which was lower in the emotionally disturbed group. Particularly the mothers' acceptance of moving seemed important.

Not only residential, but also social mobility has been studied and found to affect parental attitudes to the role of the child in the family. Such changes are related to the expression of love and authority towards the child and in turn to the development of neurosis in the child.

Apart from the findings, mentioned in the preceding paragraphs, Kantor in the same paper (1965) reports a study of her own on the effects of residential and social mobility on the adjustment of children. Residential mobility was defined as short-distance moving within a metropolitan area. Social mobility was defined as a change in total family income, or change in the father's education or occupation.

Only residential, not social mobility was significantly related to initial number or behavioral symptoms, as reported by the mothers in interviews. The strength of the association is not reported. Residential and occupational mobility were related to symptom change over the two-year period. Educational as well as the other kinds of social mobility, on the other hands were unrelated to symptom change, which was manifested as a decrease in symptoms between two occasions of measurement. In other words, families who move are more likely to have behavior problems manifested in the children before moving. The finding that only occupational mobility but not the other kinds of social mobility, i.e. educational or financial, affects childrens mental health, is somewhat puzzling. It may be explained by assuming that an occupational shift on the part of the father

is a more drastic event than educational mobility. Occupational mobility may furthermore mean a major change in income, while income changes without occupational mobility are probably of a minor size.

Kantor's results demonstrate that findings for adults are not parallel to conditions affecting children. Lasry and Sigal (1974) could show that education was the variable that was most strongly associated with the mental health of adult immigrants to Canada. Lasry and Sisal found that age, income, length of residence and education were all related to mental health, but also interrelated. By using partial correlations, they could sort out which associations were spurious and which were not. Education showed coefficients between .20 and .40 for men and women, respectively, when the other variables were partilized away. All other correlations were very low, suggesting that income for men and length of residence for women are the next most important variables, but with coefficients between .15 and .30 only.

It should be noticed too, that except the differences children - adults between Kantor's review and results and Lasry's research, there is also the difference of internal and external migration.

The adjustment process in immigrant children, data from Switzerland

One study is reported by Rodriguez et al. (1967). They compared a group of 74 Spanish pupils, who attended "le Service Médico-Pedagogique" (S.M.P.) in Geneva with three other groups of pupils:

a) a group of Spanish children with normal school records, not attending the S.M.P.
b) a group of children of native industry workers attending the S.M.P.
c) the whole group of pupils attending the S.M.P.

Table 9 shows the number of pupils who were not transferred to the next grade.

Table 9. School retardation at the beginning of 1966/67 in grades 5 and 6. Data from Rodriquez et al. (1967).

| School retardation | Spanish pupils % | All Genevan pupils % |
|---|---|---|
| One year of retardation | 40 | 22 |
| Two years of retardation | 20 | 8 |
| Total | 60 | 30 |

The number of Spanish pupils was 842 and the total population was 25,149 pupils. The proportion of retarded Spanish pupils is about twice that of the whole population. A further analysis of these figures reveals interesting facts, table 10.

Table 10. School retardation in various groups, %. Data from Rodriquez et al. (1967).

| School retardation | All S.M.P. children (c) | Native worker's children (b) | Spanish S.M.P. children (a) |
|---|---|---|---|
| One year | 20 | 30 | 33 |
| Two years | 8 | 20 | 25 |
| Three years | 2 | 8 | 12 |
| Total | 30 | 58 | 70 |

This analysis suggests that general social factors are in part responsible for the retardation, which agrees with the results of Wennerström (1967). See section "The case of Torne Valley". The figures for working class children are very similar, indenpendently of nationality.

The authors also give figures of what they call the psycho-pathological structure of the Spanish S.M.P. children. Their intelligence is normally distributed, but the occurrence of language difficulties is very high (table 11).

Table 11. Language difficulties, % in Swiss school children with school problems. Data from Rodriquez et al. (1967).

| Language difficulties | All S.M.P. children (c) | Spanish S.M.P. children (a) |
|---|---|---|
| Specific | 30 | 33 |
| Bilingualism[1)] | 6 | 42 |
| Other | 7 | 10 |
| Total | 43 | 85 |

1) This word is, unfortunately, not defined by Rodriquez et al.

85% of the Spanish children have language troubles, which is twice as high a frequency as in the whole group of S.M.P. children.

However, the authors warn against drawing hasty conclusions from these data. They discuss the role of bilingualism as an explanation of school retardation, and call attention to several authors who are of the opinion that bilingualism causes troubles only when there are other educational problems present: "Pour ces derniers auteurs le bilinguisme peut être génant lorsqu´il se développe dans un milieu où il y a d´autres problèmes d´éducation, les difficultés du bilinguisme viennent alors s´ajouter à d´autres difficultés." (p. 285)

The authors arrive at the following conclusion: "Ces dernières constatations viennent étayer notre hypothèse selon laquelle des facteurs autres que linguistiques ou migratoires au sens restreint du terme sont à la base de la débilité scolaire observée chez les enfants des immigrants espagnols." (p. 284)

On an individual plane, bilingualism per se does not appear to create any problems if the child does not have language or intellectual problems, if he gets a suitable socio-cultural and linguistic support and does not have any emotional problems. On a social plane, the problem varies according to the social and family situation and what value the child´s language takes from cognitive and affective points of view. This is in agreement with recent experimental Canadian data, see the chapter "Bilingualism", p. 35.

The adjustment process in immigrant children, data from Sweden

The following section is a summary of a paper I presented at the 18th Int. Congress of Applied Psychology in Montreal in August, 1974. (Ekstrand, 1976)

Migration in Europe has increased considerably since World War II. For instance, the number of immigrants in Sweden registered by labour authorities as employed, increased from 61,000 in 1947 to 233,000 in 1974. Some action has been taken by the authorities to facilitate the adjustment of the immigrant pupils, but important areas such as teacher training and official statistics, are still underdeveloped. This is also true for England and probably most other European immigrant countries.

In 1966, very little was known about the adjustment process of immigrant pupils. The objectives for this study were to make a comparative pilot study of the situation of the immigrant pupils from different European countries in the Swedish comprehensive school, with special regard paid to the Finnish

pupils. The main aim of the study was to map some of the problems of language acquisition, and to some extent the problems of social and emotional adjustment, which could then be studied further.

The data collection was carried out in the spring of 1966. Owing to the lack of central registers, a population was mapped by writing to all schools, altogether nearly 1,400, belonging to the Swedish comprehensive school. First, a questionnaire was sent to the headmasters to map schools with immigrant children. Only 7% did not answer this questionnaire. To the schools with immigrant children, a second questionnaire was sent out to find out the number ofpupils and to gather information about them. 2,188 pupils were found, fitting the definition "foreign pupils, receiving special tuition in Swedish". A Royal Commission reported that in the spring of 1965 the number of such children was 1,902. The figure for this study, therefore, cannot be very far from the true value. Only children who have actually immigrated to Sweden seem to have been given tuition in Swedish, while children who are born in Sweden by immigrant parents do not seem to have been attended to. This latter category of children, is believed to have a poor language capacity. They are not represented in this study.

As a third step, six language achievement tests and three reading skill tests in Swedish and three non-verbal intelligence tests, corresponding to the Thurstone R, N and S factors, were sent out to all teachers to be administered to the pupils. For different reasons, there is a varying number of missing data for items of the questionnaire as well as for the test variables. As there are at least some data for every pupil and as the pupils constitute a population, not a sample, it is possible to make various statistical checks to see if there is any bias in the data.

The 2,188 children are distributed rather evenly over grades 1-7, with a diminishing number in grades 8 and 9. 36 nations are represented. 62% of the pupils are from Finland, 16% from Yugoslavia, 5% from Greece, 2.5% from Italy and USA, the rest being distributed over the 31 remaining nations. By grouping the pupils by language families, substantial subgroups with regard to origin of native language may be obtained.

The language tests have been statistically treated in order to describe language achievement as a function of native

language, age, number of months in Sweden, sex, intelligence, teaching techniques and a number of other variables. Some results have been published elsewhere (Ekstrand, 1971, 1973, 1976 a, b, c, d) and other results will appear later.

The adjustment variables show average "progress in school" ($\bar{X}$=2,95 on a scale where 1 is very bad and 5 is very good progress), better than average "social adjustment" ($\bar{X}$=3.5), better than average "emotional adjustment" ($\bar{X}$=3.5) and average "progress in Swedish" ($\bar{X}$=3.2). The number of missing data is quite high in the last two variables, though no bias relative to all other variables could be shown. The ratings are based on verbal statements by the teachers. Neither the statistical nor the verbal data seem to corroborate the apprehensions heard concerning a supposed high frequency of emotional and social disturbances, even though it should be added that more detailed and objective data are needed before safe conclusions may be drawn.

Intercorrelations have been computed between domains of variables. The mean product moment correlation for the language variables is .57, for the adjustment variables .52, for the reading tests .73, .75 and .76. These correlations are rather high, which was to be expected. The average correlation between the intelligence tests is .33 which is very close to the corresponding figure from the test manual.

The mean correlation coefficient for language by adjustment variables is .19 only and for intelligence by adjustment variables .11. These correlations may seem sursprisingly low, but are in agreement with a great number of investigations where cognitive data are correlated with affective data. Furthermore, the matrices are shown to be homogeneous. The same results are found when the material is divided into subgroups such as language family, age, duration of residence in Sweden, and sex. Inspection of teacher descriptions suggests that there is an association between personality and verbal behavior.

Social and emotional adjustment does not seem to be alarmingly bad, though data from a Swedish control group are not available.

The conclusion from the correlation analyses seems to be that language achievement does not automatically promote good adjustment in other respects. In order to help the children who have problems with their social and emotional adjustment, other measures must be taken in addition to language training.

My hypothesis at the moment is that migration between countries does not create, on the whole, more disturbances than migration within a country, living in a highly urbanized area, or similar factors.

The conclusions from this study gain support in studies by Goldenberg (1973) and Williamsson (1975).

The adjustment process in immigrant children, data from Great Britain

Rutter et al. (1974) have compared West Indian children with British children in an inner London borough. 58 WI children, randomly sampled and 60 deviant WI children, as screened by a teacher questionnaire, were compared to 106 randomly selected and 159 screened children from non-migrant families. The parents were thoroughly interviewed by means of a standardized procedure. The teachers were also subjected to a short interview. The teacher interviews were rated by a psychiatrist.

Looking first at the figures from the teacher questionnaire, it was found that 41,2% of the WI children had some kind of behavior disturbance as compared to 19,1% of the non-migrant families. No data of the ethnic composition of the non-migrant families are given. The percentages are supposedly based on one or more items having been indicated in the teacher questionnaire, but this is not reported. Total N was 1.689 non-migrants and 354 migrants.

A better criterion of adjustment is, according to the authors, the psychiatric ratings of the teacher interviews. The results are given in table 12.

Table 12. Psychiatric ratings of teacher interview data.

| Disturbance | WI children (%) | Non-migrant children (%) |
|---|---|---|
| Emotional | 33.3 | 26.8 |
| Peer relationships | 18.5 | 19.6 |
| Conduct | 22.2 | 8.3 |
| Other | 18.5 | 14.4 |
| Total N | 54 | 97 |

The estimated prevalence of mental disorder was obtained by a somewhat complicated method, which is not quite clear from the report. The percentage of children with disturbances (also mild) in the WI groups was 38.2 and in the non-migrant group 27.6. The method of extrapolation used does not seem to be with-

out risks, however.

Two things are inmediately striking. One is the high percentage in both groups, the other the comparatively small difference, which is significant on the 10% level only. The amount of abnormal family conditions is high in both groups, but decidedly worse in the migrant group. It would seem as if both the migrant and the non-migrant group are rather specific groups, not necessarily representative for the total populations of immigrants and non-immigrants and that one should be careful about generalizations from this study alone.

An interesting feature is the fact that the difference is explained almost entirely by the category "conduct", which according to the descriptions in the report is equivalent to aggressive, extrovert behavior, while "emotion" is equivalent to introvert behavior.

General conclusions and educational implications

The term "stereotype" is preferred by modern investigators to the term "prejudice". A negative stereotype is typically based on scant and erroneous information. Crucial variables for the development of positive stereotypes seem to be degree of general education and the amount of specific knowledge, mainly through direct contact, of the culture and people of a certain ethnic group or nation. Children´s stereotypes are in part determined by the attitudes of the parents.

In the long run, improvement of the school systems in the host countries, and particularly of adult education and systems for recurrent education, seem to be the best methods to prevent negative stereotypes of immigrants. At short sight information about the culture and behavior patterns of the foreign cultures should be given via mass media. Unfortunately, such information tends to be dull, emotional and over-serious. Positive and correct information could be built in into comic strips in newspapers and into comic or thrilling radio and TV programs, movie pictures, etc.

Insecurity and unemployment cause adults to experience immigrants as threats and potential dangers. Good social security and full employment should prevent negative stereotypes from developing.

It should be remembered that stereotypes are necessary. They are the specific contents and emotional color of a catego-

ry for the individual and are to a large extent shared by the members of a community. The stereotypes should be "loaded" with as much correct information as possible, which in turn depends on the amount and quality of the information available in a community.

Hallucinations and other kinds of imagery are often more freely expressed and socially accepted in non-Western cultures, but are also more common in the lower social groups in industrialized societies. As immigrants often come from non-Western or semi-Western cultures and mostly belong to the working class, they may tend to experience and express hallucinations and imagery more frequently than is typical for the population in the host country. As ignorance of social and cultural differences on the part of physicians, psychiatrists, psychologists, teachers and other professionals may tend to prolong or aggravate pathological states, adequate information should be included in the training of these professionals.

A number of studies suggest that the mental health of immigrants is generally worse than in the population of the host country. Other of studies have failed to confirm this evidence, however. Other factors than migration per se may explain the contradictory results. One such factor is the mental health in the population in the emigrant country. The rate of mental illness may be due to factors such as the quality of the mental and physical health care services, education and standard of living in the emigrant country. Hospitalization studies may suffer from biases such as immigrants, having improved their economy and knowledge by the act of immigration, asking for mental health care because of accumulated needs. Another bias is SES. Mental illness is more common in the lower social strata and the majority of migrants come from these strata. It is most important that the socio-economic variable, as well as the state of mental health in the emigrant countries, are controlled in all studies of mental health in migrants.

However, except the two major variables mentioned, a number of factors affect the risk for mental hospitalisation, e.g. rural-urban or urban-urban migration, age, sex, occupation, culture, race, religion and a few more. There are also differences in diagnostic practices between countries, giving different rates of specific illnesses. Again, information to and training of professionals, as well as an increased internatio-

nal exchange of such persons, are desirable pieces of action in emigrant as well as immigrant countries. Such action is suggested in the Final Act of the Conference on Security and Co-operation in Europe (Helsinki 1975). Crosscultural exchange of teachers and other school professionals should be encouraged in a variety of ways, such as scholarships and liberal rules for leave of absence. More research grants should also pay off during the next few years.

Another technique for studying mental illness and migration is stress research and life events. In stress research, various techniques for studying physical reactions to psychic stress are employed,such as listing psycho-somatic symptoms and measuring the amount of catecholamines in the urine. Life events are measured simply by listing them or converting them into an LCU-scale. Together, these two types of techniques may be used to assess the amount of illness in mobile and non-mobile populations.

Correlations between number of life events and the total amount of mental illness typically lie between .30 and .60, while correlations between amount of life events (or changes) and single illnesses, like myocardial infarcts, generally are lower, in the range .10-.40. The degree of control over life events that an individual can exercise seems to be of importance: The greater control, the lower is the incidence of illness. One recent study investigated a representative sample of a whole immigrant population. This kind of study is preferable to hospitalisation studies or studies of other biased samples. No higher rate of illness was found in this immigrant group than could be expected in any other population. However, there was a sexual difference, showing that women suffered from more mental illness and that the correlation between migration and illness was positive. For men, this correlation was negative and rather strong, suggesting that men in active ages rather need some change in their life situation.

Studies of the effects of residential and social mobility on the mental health of children suggest that residential mobility does not produce disturbances in children unless the parents have negative attitudes towards the change. Occupational change is related to the rate of disturbances in children, but not other kinds of social change in the family, viz. educational or financial change. The connection between rate of

disturbances in children to residential or occupational mobility, is that mobility seems to alter the parents' attitudes towards the role of the child in the family and thereby their expressions of love and affection. It is further important that the child stays with the family. Under these circumstances, a certain measure of residential mobility - one or two moves - seems to affect the children positively. Too much or too little change is detrimental too intellectual as well as social and emotional development.

Data from Switzerland, Sweden and Great Britain suggest that mobility per se is not detrimental to children, unless accompanied by educational problems, low socio-economic status of the parents, etc., the effects of which are worsened by migration. Language teaching alone is not a sufficient measure to prevent or cure emotional disturbances, as correlations are very low. One hypothetical explanation to the low correlations between adjustment and language teaching is that there are many channels of non-verbal communication, which in particular transmit emotional communication.

It seems to be of the utmost importance to prevent the negative effects of factors which combined with migration may produce or aggravate intellectual or emotional disturbances. Such a program may involve family counselling before(if possible),and after migration. As the wives seem to be at risk of mental illness following migration and also play the major role in the development of the children, it is important to involve the wives in various social activities, like joining parental and other societies, study circles and adult education. From experience - not only with immigrants - we know that husbands become jealous and suspicious when the wives engage in activities outside the family. This should be possible to prevent by talks to married men before, upon and after moving. When no negative factors exist, migration seems to be positive to children.

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